2002
Exercise and Drill Reports
Columbia Generating Station
Richland, Washington

Licensee:	Energy Northwest
Exercise Date:	September 17 & 18, 2002
Drill Dates:	July 25, September 18, 19, & 21, 2002
Report Date:	February 10, 2003

FEDERAL EMERGENCY MANAGEMENT AGENCY
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I. EXECUTIVE SUMMARY

On September 17 and 18, 2002, the Federal Emergency Management Agency (FEMA), Region X conducted an exercise in the Post Plume Ingestion Exposure Pathway Emergency Planning Zone (EPZ), around the Columbia Generating Station. The purpose of the exercise was to assess the level of State and local preparedness in responding to a radiological emergency. This exercise was held in accordance with FEMA's policies and guidance concerning the exercise of State and local Radiological Emergency Response Plans (RERP) and Procedures.

The most recent exercise at this site was conducted on September 12 and 13, 2000. The qualifying emergency preparedness exercise was conducted on June 1, 1983.

FEMA wishes to acknowledge the efforts of the many individuals in the State of Washington (WA): Emergency Operations Center (EOC) and WA State Media/Public Inquiry at Camp Murray; Meteorological and United Dose Assessment Center (MUDAC) and Joint Information Center (JIC) at Richland; WA Radiological Monitoring Teams, WA Department of Health (Radiation Protection); and the WA Department of Agriculture. The risk Counties of Benton and Franklin participated along with the ingestion Counties of Grant, Yakima and Walla Walla. Various agencies of the State of Oregon (OR) also participated in this exercise: OR Department of Energy, OR Department of Health and OR Emergency Coordination Center.

Protecting the public health and safety is the full-time job of some of the exercise participants and an additional assigned responsibility for others. Still others have willingly sought this responsibility by volunteering to provide vital emergency services to their communities. Cooperation and teamwork of all the participants were evident during this exercise.

This report contains the final evaluation of Energy Northwest's Columbia Generating Station post-plume exercise and the evaluation of the following out-of-sequence activities: WSDA Milk Sampling Drill (Dairy in Franklin County, WA), Benton County MS-1 Drill (Kadlec Hospital and Richland Fire Department, Richland, WA), Benton County/WA Department of Agriculture Food Control Drill, Richland, WA, and Franklin County Emergency Worker/Assistance Center Drill located at the Columbia Basin College, Pasco, WA.

The States and local organizations, except where noted in this report, demonstrated knowledge of their emergency response plans and procedures and adequately implemented them. There were no Deficiencies and 5 Areas Requiring Corrective Actions (ARCAs) identified as a result of the exercise or out-of-sequence drills. Two of those 5 were re-demonstrated and cleared during the exercise/drills. (Reference Appendix 5 for Summary of Outstanding ARCAs—either previous or new CGS Exercise or Drill Issues.)

The following thirteen ARCAs identified as cleared in this exercise, or in N out-of-sequence drills since our 2000 Exercise Report, are as follows:

OR 69-99-05-A-01 and OR 69-00-13-A-11
EOF 69-98-05-A-02
WA EOC 69-00-27-A-05 and WA EOC 69-00-12-A-04
JIC 69-00-11-A-08, JIC 69-00-12-A-09 and JIC 69-00-13-A-10
EWAC 69-00-18-A-01.
WA EOC 69-02-2.d.1-A-02 (Re-demonstrated/cleared)
BC-MS-1 69-02-6.d.1-A-05 (Re-demonstrated/cleared)

MUDAC 69-00-26-A-06 and 69-00-26-A-07 listed in our 2000 Exercise Report were cleared in March 2001 at an out of sequence drill.

II. INTRODUCTION

On December 7, 1979, the President directed FEMA to assume the lead responsibility for all offsite nuclear planning and response. FEMA's activities are conducted pursuant to 44 Code of Federal Regulations (CFR) Parts 350, 351 and 352. These regulations are a key element in the Radiological Emergency Preparedness (REP) Program that was established following the Three Mile Island Nuclear Station accident in March 1979.

FEMA Rule 44 CFR 350 establishes the policies and procedures for FEMA's initial and continued approval of Tribal, State and local governments' radiological emergency planning and preparedness for commercial nuclear power plants. This approval is contingent, in part, on State and local government participation in joint exercises with licensees.

FEMA's responsibilities in radiological emergency planning for fixed nuclear facilities include the following:

- Taking lead in offsite emergency planning and in the review and evaluation of RERPs and procedures developed by State and local governments;

- Determining whether such plans and procedures can be implemented on the basis of observation and evaluation of exercises of the plans and procedures conducted by State and local governments;

- Responding to requests by the U.S. Nuclear Regulatory Commission (NRC) pursuant to the Memorandum of Understanding between the NRC and FEMA, dated June 17, 1993, (Federal Register, Vol. 58, No. 176, September 14, 1993); and

- Coordinating the activities of Federal agencies with responsibilities in the radiological emergency planning process:

    - U.S. Department of Commerce,
    - U.S. Nuclear Regulatory Commission,
    - U.S. Environmental Protection Agency,
    - U.S. Department of Energy,
    - U.S. Department of Health and Human Services,
    - U.S. Department of Transportation,
    - U.S. Department of Agriculture,
    - U.S. Department of the Interior, and
    - U.S. Food and Drug Administration.

Representatives of these agencies serve on the FEMA Region X Regional Radiological Assistance Committee (RRAC), which is chaired by FEMA.

The Alert and Notification system for the Columbia Generating Station was approved by FEMA on June 17, 1994.

Initial submission of the RERPs for the Columbia Generating Station to FEMA Region X by the State of Washington and involved local jurisdictions occurred in June 1981. Oregon and involved jurisdictions submitted their initial RERPs for Columbia Generating Station to

FEMA Region X in December 1993. All of the organizations in Washington and Oregon have been responsive to suggestions for plan improvements and have continued to improve and update their RERPs following the guidance in 44 CFR 350. The State of Washington submitted their initial letter requesting formal review and approval of their RERPs under 44 CFR 350 on May 6, 1999. A REP exercise was conducted on September 12 and 13, 2000, by FEMA Region X to assess the capabilities of the States and local emergency preparedness organizations in implementing their RERPs and procedures. The State of Washington finalized and submitted their RERPs in June/July 2002. Completion of the 350 Review of State and County Plans and Procedures for the State of Washington will be completed when all up-dates have been received, reviewed and approved.

A REP exercise was conducted on September 17 and 18, 2002, by FEMA Region X to assess the capabilities of State and local emergency preparedness organizations in implementing their RERPs and procedures to protect the public health and safety during a radiological emergency involving the Columbia Generating Station. The purpose of this exercise report is to present the exercise results and findings on the performance of the offsite response organizations (OROs) during a simulated radiological emergency.

The findings presented in this report are based on the evaluations of the Federal evaluator team, with final determinations made by the FEMA Region X RRAC Chairperson, and approved by the Regional Director.

The criteria utilized in the FEMA evaluation process are contained in:

- NUREG-0654/FEMA-REP-1, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants" dated November 1980; and

- FEMA's "Interim Radiological Emergency Preparedness Program Manual," dated August 2002, and

- FEMA Medical Services Guidance, Page 237 of the "Interim Radiological Emergency Preparedness Program Manual" dated August 2002.

Section III of this report, entitled "Exercise Overview," presents basic information and data relevant to the exercise. This section of the report contains a description of the plume pathway EPZ, a listing of all participating jurisdictions and functional entities that were evaluated, and a tabular presentation of the time of actual occurrence of key exercise events and activities.

Section IV of this report, entitled "Exercise Evaluation and Results," presents detailed information on the demonstration of applicable exercise evaluation areas at each jurisdiction or functional entity evaluated in a jurisdiction-based, issues-only format. This section also contains: (1) descriptions of all Deficiencies and ARCAs assessed during this exercise, recommended corrective actions, and the Tribal, State and local governments' schedule of corrective actions for each identified exercise issue and (2) descriptions of unresolved ARCAs assessed during previous exercises and the status of the ORO's efforts to resolve them.

III. EXERCISE OVERVIEW

Contained in this section are data and basic information relevant to the September 17 and 18, 2002, exercise to test the offsite emergency response capabilities in the area surrounding the Columbia Generating Station. This section of the exercise report includes a description of the plume pathway EPZ, a listing of all participating jurisdictions and functional entities that were evaluated, and a tabular presentation of the time of actual occurrence of key exercise events and activities.

A. Plume Emergency Planning Zone Description

The Columbia Generating Station is located at the Northeast corner of the U.S. Department of Energy's (US DOE) Hanford Reservation and is operated by Energy Northwest. It is about ten miles north of the city of Richland and three miles west of the Columbia River. The Columbia Generating Station is a boiling water reactor with a turbine generator rated at 1,250 megawatts (peak gross).

The topography of the ten-mile EPZ is relatively flat except for a range of hills southwest of the site and bluffs and rolling hills to the north and to the east of the site along the Columbia River. The land is arid and desert-like except where it is irrigated.

The total resident population of the ten-mile EPZ is estimated at 3,674. Approximately 1150 of these residents live in Benton County where the CGS is located. The other 2,524 residents live across the Columbia River to the east in Franklin County. There are no residents within three miles of the site.

The transient population of the ten-mile EPZ could total 15,836 depending on the time of the year. This estimate is comprised of: 7,926 industrial employees, mostly in Benton County, 5,135 migrant farm workers, mostly in Franklin County, and 2,775 recreationists, mostly along the east bank of the Columbia River and at the Off-Road Vehicle Park on the southwestern edge of the EPZ.

The land use within the Benton County portion of the 10-mile EPZ is predominantly vacant except for scattered industrial sites, recreational sites, and some residents on the southern edge of the EPZ. The land use within the Franklin County portion of the EPZ is predominantly diversified agricultural production facilitated by irrigation. There are six recreation areas within the EPZ: Horn Rapids Park, Horn Rapids Off-Road Vehicle Park and Rattlesnake Mountain Shooting Facility in Benton County; the Wahluke Hunting areas and Ringold Fishing Area in Franklin County; and the Columbia River.

B. Ingestion Pathway Emergency Planning Zone

The 50-mile Ingestion Pathway EPZ encompasses all or parts of eight Counties in Washington State, two Counties in Oregon, and the northeast corner of the Yakima Indian Reservation. The eight Washington Counties are Adams, Benton, Franklin, Grant, Kittitas, Klickitat, Walla Walla, and Yakima. Since only small and unpopulated portions of Kittitas and Klickitat Counties are within the 50-mile EPZ,

these Counties are not active participants in the Offsite Radiological Emergency Preparedness Program for the Columbia Generating Station. Likewise, the Yakima Tribal Nation is not an active participant. South of the plant site, the 50-mile EPZ extends approximately 15 miles into the Oregon Counties of Morrow and Umatilla.

The topography of the 50-mile Ingestion Pathway EPZ is similar to that of the ten-mile EPZ. The land use is predominantly diversified agricultural production facilitated by irrigation. However, the 50-mile EPZ also includes a number of cities and towns, as well as major transportation routes.

The largest resident population within the 50-mile EPZ is south and southeast of the Columbia Generating Station in the Tri-Cities of Kennewick and Richland, in Benton County, and Pasco, in Franklin County. Their combined population is approximately 116,000.

Other population centers within the 50-mile EPZ include: Cities of Moses Lake, approximately 14,760 residents, at the north edge of the EPZ in Grant County, Washington; Sunnyside, approximately 12,500 residents, west of the Columbia Generating Station in Yakima County, Washington; and Hermiston, approximately 11,500 residents, south of the power plant in Umatilla County, Oregon.

Major transportation routes crossing through the 50-mile EPZ include: Interstate Highway 90, north of the power plant in Grant County; Interstate Highways 82, west of the power plant and extending south into Oregon; Interstate Highway 84, south of the power plant in Oregon; and State Route 395, in Adams, Benton, and Franklin Counties. Significant amounts of wheat and other products are shipped by barge on the Columbia and Snake Rivers, which cross through the 50-mile EPZ. The Tri-Cities Airport in Pasco, Washington serves as the regional airport for much of the population within the 50-mile EPZ. The airport is approximately 17 miles southeast of the Columbia Generating Station nuclear power plant.

C. Exercise Participants

The following agencies, organizations, and units of government participated in the Columbia Generating Station exercise on September 17 and 18, 2002, and/or an out-of-sequence drill conducted in 2002.

STATE OF WASHINGTON

- American Red Cross
- Washington State Department of Agriculture
- Washington State Department of Health, Division of Radiation Protection
- Washington Department of Transportation
- Energy Facility Site Evaluation Council
- Energy Northwest – Columbia Generating Station
- Military Department, Emergency Management Division
- Washington National Guard
- Oregon Office of Energy
- Radio Amateur Civil Emergency Service (RACES)
- Washington State Patrol

RISK JURISDICTIONS (WASHINGTON STATE)

BENTON COUNTY

- County Commissioners
- County Emergency Services
- County Sheriff's Office
- County Public Works
- County Fire District #4
- County Prosecuting Attorney's Office
- Tri-Dec High School-Law Enforcement Class
- Columbia River Young Marines
- Benton & Franklin Amateur Radio Association
- Benton County Sheriff
- Benton County Fire District No. 2
- American Red Cross
- Volunteer Translators from Church of Jesus Christ of the Latter Day Saints
- Ben Franklin Transit
- Benton/Franklin Health Department
- Kennewick Police Department
- Richland Police Department
- West Richland Police Department
- Washington State Patrol
- Washington State Department of Agriculture
- Washington State Emergency Management
- City of Richland City Managers Office
- Energy Northwest

FRANKLIN COUNTY

- County Commissioners
- County Emergency Management
- County Attorney
- County Health Department
- County Public Works
- Coyote Ridge Correction Center
- Pasco Fire Department
- Pasco/Franklin County Dispatch
- Pasco Police Department
- Sheriff's Department
- County computer, administrative and clerical personnel
- Energy Northwest
- Washington State Emergency Management
- American Red Cross

SUPPORT JURISDICTIONS (WASHINGTON STATE)

ADAMS COUNTY (Not evaluated.)

GRANT COUNTY
- County Commissioners
- County Health District
- County Department of Emergency Management
- County Sheriff's Office
- County Public Works
- County Fire District Fire Services
- WSU/County Agricultural Extension Agent
- County Prosecutor
- City of Moses Lake
- WA State Liaison
- Public Information Office
- County Nursing Office

WALLA WALLA COUNTY
- County Commissioners
- County Emergency Management
- County Planning Department
- County Communications
- County Sheriff Department
- County Department of Public Works
- WSU Agricultural Extension Agent
- County Health Department
- High School Junior Reserve Officer Training Center
- Radio Amateur Civil Emergency Service

YAKIMA COUNTY
- County Board of Commissioners
- Yakima Valley Office of Emergency Management
- Yakima Sheriff's Department
- County Department of Public Works
- Yakima County Department of Corrections
- Yakima County Department of Human Resources
- Yakima County Fire Protection District #5
- Yakima County 911 Dispatch
- Yakima Valley Chapter of the American Red Cross
- Washington State Emergency Management Division
- Washington State Patrol
- Washington State Department of Ecology
- WSU Agricultural Extension Agent

STATE OF OREGON

- Emergency Management
- Health Division
- Office of Energy
- State Police
- Department of Agriculture
- Department of Transportation
- Military Department

SUPPORT JURISDICTIONS (OREGON STATE)

MORROW COUNTY (Not evaluated.)

UMATILLA COUNTY (Not evaluated.)

PRIVATE/VOLUNTEER ORGANIZATIONS (All Locations)

- American Red Cross
- ARES/RACES
- Benton and Franklin Amateur Radio Association
- Big River County School (Franklin County)
- Junior ROTC (Walla Walla County)
- Kadlec Medical Center
- Richland Fire Department
- Organization of Radiation Protection Technicians
- Richland Police Explorer Post

FEDERAL AGENCIES

- Federal Emergency Management Agency
- Nuclear Regulatory Commission
- U.S. Department of Agriculture
- U. S. Department of Transportation
- Environmental Protection Agency
- U.S. Food and Drug Administration

D. Exercise Timeline

Table 1, on the following page, presents the time at which key events and activities occurred during the Columbia Generating Station exercise on September 17 and 18, 2002. Times notifications were made to the participating jurisdictions/functional entities are also included.

Table 1. Exercise Timeline

Date and Site: September 17 and 18, 2002, Columbia Generating Station

Time Notification Was Received										
Emergency Classification Level or Events	**Time Utility Declared**	**WA State EOC**	**Yakima County EOC**	**Benton County EOC**	**Franklin County EOC**	**Grant County EOC**	**Walla-Walla County EOC**	**Oregon State ECC**	**EOF MUDAC at Columbia**	**Joint Information Center**
September 17, 2002										
Unusual Event										
ALERT	0804	0819	0834	0814	Dispatch 0813 EOC 0819	0845	0850	OERS 0821 OOE 0839	0817	
Site Area Emergency	0935	0943	1017	0944	0944	1010	1019	0944	0937	0944
General Emergency	0951	1000	1054	0957	0958	1037	1039	0959	0952	0959
Simulated Rad. Release Started	1101	1117	1153	1101	1106	1151	1129	1113	1101	1107
Simulated Rad. Release Terminated	1409	1442	Not Rec'd.	1409	1516	1528		1434	1409	1512
Facility Declared Operational Functional		0841 0937	1035	0849	0859	0845	1035	1011	0920	0851
Local Emergency Declaration			1431	0956	1007					
Governors Emergency Declaration		1056			1128	1150	1140		1230	1115
Early Precautionary Actions Schools, Recreation Areas			N/A	0950	0950					
1st Siren Activation		1257?	N/A	0954	1019					

Table I. Exercise Timeline (Continued)

Emergency Classification Level or Events	Time Notification Was Received								
	WA State EOC	Yakima County EOC	Benton County EOC	Franklin County EOC	Grant County EOC	Walla-Walla County EOC	Oregon State ECC	EOF MUDAC at Columbia	Joint Information Center
1st EAS Message		N/A	0952	1018					
1st PA Decision Evacuate Sec. 1,2 & Shelter 3,4	1208 Verified 1250 Signed	N/A	1015 or 0950	1006					
2nd Siren Activation		N/A	1019/1210						
2nd EAS Message		N/A	1016/1223						
2nd PA Decision Evacuate Sec. 3		N/A	1204						
3rd Siren Activation		N/A	1210						
3rd EAS Message		N/A	1223						
4th Siren Activation – Move EWAC 4th EAS Message			1312						
4th Siren Activation			1314						
KI for Emergency Workers Verbal	1250 12168		1204	1216			1030		
Agriculture Leaflet Distributed		1445?	1008	1040			1000 18th		
Agriculture Advisory Issued Dairy Control Advisory		1341	1430	1205			1408 1440	BC 1435/1430 FC 1426/1235 OR 1420/1408	BC 1430 FC 1235 OR 1408

Table I. Exercise Timeline (Continued)

Time Notification Was Received									
Emergency Classification Level or Events	**WA State EOC**	**Yakima County EOC**	**Benton County EOC**	**Franklin County EOC**	**Grant County EOC**	**Walla-Walla County EOC**	**Oregon State ECC**	**EOF MUDAC at Columbia**	**Joint Information Center**
September 18, 2002									
3rd PA Decision – Initiated Return	1050	N/A N/A	1050/ 1555	N/A					
News Release		N/A		N/A					FC-1115 Joint-1118
4th PA Decision –Revised KI	1227	N/A	1106/ 1507	N/A					
News Release		N/A		N/A					Joint-1645
5th PA Decision – Relocation and revised Return	1517	N/A	1308 1834	N/A			1445		
News Release				N/A			1506		OR-1506 BC-1900 W-1930
6th PA Decision – Revised Relocation Area		N/A		N/A					
News Release		N/A		N/A					N/A Term Sim. PR. Conf. 2015
7th PA Decision –Food Control Area	1754	1315		1315					
Transmitted to the State EOC		1440		1440					N/A Term Sim. PR. Conf. 2015
Exercise Terminated									

IV. EXERCISE EVALUATION AND RESULTS

Contained in this section are the results and findings of the evaluation of all jurisdictions and functional entities participating in the September 17 and 18, 2002, exercise. The exercise tested the offsite emergency response capabilities of Tribal Nations, State and local governments in the 10-mile EPZ surrounding the Columbia Generating Station. Each jurisdiction and functional entity was evaluated on the basis of its demonstration of criteria delineated in exercise evaluation area criteria contained in the FEMA REP Program Manual. Detailed information on the exercise evaluation area criteria and the Extent-of-Play Agreement used in this exercise are found in Appendix 3 of this report.

A. Summary Results of Exercise Evaluation - Table 2

The matrix presented in Table 2, on the following page(s), presents the status of all exercise evaluation area criteria from the FEMA REP Program Manual scheduled for demonstration during this exercise by all participating jurisdictions and functional entities. The exercise evaluation area criteria, listed by number, demonstrates the status of those evaluation area criteria indicated by the use of the following letters:

M - **Met (No Deficiency or ARCAs assessed in this exercise or drills.)**
See Appendix 5 for complete listing of unresolved ARCAs, including those from prior exercises/drills.

M* - **ARCA assessed but Re-demonstrated Successfully**

D - **Deficiency assessed**

A - **ARCA(s) assessed. See Appendix 5 for complete listing of unresolved ARCAs including those from prior exercises/drills.**

N - **Not Demonstrated (Reason explained in Subsection B)**

TABLE 2. Summary Results of 2002 Exercise Evaluation for States and Counties

(Page 1 of 2)

September 17-18, 2002
Columbia Generating Station
Post Plume Exercise

WSDA Milk Sampling Drill 7/25/02
Benton County/WSDA Food Control Drill 9/18/02
Benton County MS-1 Drill 9/19/02
Franklin County EWAC Drill 9/21/02

Jurisdiction/Functional Entity	Mobilization	Facilities	Direction & Control	Communications Equipment	Equipment & Supplies to Support Operations	Emergency Worker Exposure Control	Rad Assmt PARs Based on Available Information	Rad Assmt PADs for General Public	Prot Action Decisions for Special Population's	Rad Assmt & Decision Making for Ingest Exposure	Rad Assmt & Dec Making for Relo/Re-entry/& Return	Implementation of Emergency Wrkr Exposure Control	Implementation of KI Decision	Implementation of PADs for Special Population's	Implementation of PADs for Schools	Implementation of Traffic Access & Control	Impediments to Evac & Traf are Identified & Resolved	Implementation of Ingestion Pathway Decisions	Impl of IP Decisions Show Strat & Instr Material	Impl of Relocation/Re-entry/Return Decisions	Plume Phase Measurement & Analysis Equip	Plume Phase Field Measurement & Analysis Mgmt	Plume Phase Fld Measurements & Analysis Proced	Post Plume Phase Field Measurements & Sampling	Laboratory Operations	Activation of Prompt Alert & Notification	Activation Prompt Alert & Notif 15 Min (Fast Breaker)	Activation Prompt Alert & Notif in Exception Areas	Emerg Info & Instructions for the Public & Media	Monitoring/Decon/Registration of Evacuees & EWs	Monitoring & Decon of Emerg Worker Equipment	Temporary Care of Evacuees	Trans & Treatment of Contam Injured Individuals
	EMERGENCY OPNS MANAGEMENT					PROTECTIVE ACTION DECISION-MAKING						PROTECTIVE ACTION IMPLEMENTATION									FIELD MEASUREMENT & ANALYSIS					EMERG NOTIF & PUBLIC INFO				SUPPORT OPN/FACILITIES			
	1a1	1b1	1c1	1d1	1e1	2a1	2b1	2b2	2c1	2d1	2e1	3a1	3b1	3c1	3c2	3d1	3d2	3e1	3e2	3f1	4a1	4a2	4a3	4b1	4c1	5a1	5a2	5a3	5b1	6a1	6b1	6c1	6d1
WASHINGTON STATE																																	
Emergency Operations Center	M	M	A	M	M	M				M*	M			M		M		A	M	M									M			
WSDA ICC (day 2 only)																		M	M													
WA State Media/Public Inquiry		M	M	M																									M			
Emergency Operations Facility	M	M	M	M	M	M	M			M	A	M	M					M				M										
State & Local Government		M		M	M							M	M																			
Joint Information Center	M	M	M	M	A																								M			
RAD FMT No. 1 and No. 2	M			M								M	M								M		M	M								
Milk Sampling Drill				M								M	M											M								
Food Control Drill				M								M							M													
RISK JURISDICTIONS (WA)																																	
BENTON COUNTY																																	
Emergency Operations Center	M	M	M	M	M		A	M	M	M	M	M	M	M	M	M	M	M	M	M						M			M				
Kadlec Hospital				M								M																					M*

M - Met (No Deficiency or ARCA(s) Assessed and no Unresolved ARCAs from Prior Exercises
N - Not Demonstrated as Scheduled (Reason Explained in Section IV.B)
A - ARCA(s) Assessed or Unresolved ARCA(s) from Prior Exercises

Blank - Not Scheduled for Demonstration
M* ARCA Determined and Re-Demonstrated
D - Deficiency

Table 2. Summary Results of 2002 Exercise Evaluation for States and Counties

(Page 2 of 2)

Jurisdiction/Functional Entity	EMERGENCY OPNS MANAGEMENT					PROTECTIVE ACTION DECISION-MAKING						PROTECTIVE ACTION IMPLEMENTATION									FIELD MEASUREMENT & ANALYSIS					EMERG NOTIF & PUBLIC INFO				SUPPORT OPN/FACILITIES			
	1a1	1b1	1c1	1d1	1e1	2a1	2b1	2b2	2c1	2d1	2e1	3a1	3b1	3c1	3c2	3d1	3d2	3e1	3e2	3f1	4a1	4a2	4a3	4b1	4c1	5a1	5a2	5a3	5b1	6a1	6b1	6c1	6d1
BENTON COUNTY CONT.																																
Richland Fire Department				M								M																				
																																M
FRANKLIN COUNTY																																
Emergency Operations Center	M	M	M	M	M			M	M					M	M	M	M		M	M						M			M			
ACP/TCP				M									M			M	M															M
Dispatch	M			M																												
KONA				M																						M			M			
School/Bus												M	M		M																	
Impediments												M	M				M	M											M	M	M	
Emergency Worker Assist. Center				M								M																				
SUPPORT JURISDICTIONS (WA)																																
GRANT COUNTY																																
Emergency Operations Center	M	M	M	M	M													M	M													
WALLA WALLA COUNTY																																
Emergency Operations Center	M	M	M	M	M		M											M														
YAKIMA COUNTY																																
Emergency Operations Center	M	M	M	M	M					M								M	M													
OREGON STATE																																
Emergency Coordination Center	M	M	M	M	M	M				M								M	M									M				
Radiological Field Monitoring Teams				M								M	M								M		M	M								

M - Met (No Deficiency or ARCA(s) Assessed and no Unresolved ARCAs from Prior Exercises
N - Not Demonstrated as Scheduled (Reason Explained in Section IV.B)
A - ARCA(s) Assessed or Unresolved ARCA(s) from Prior Exercises

Blank - Not Scheduled for Demonstration
M* ARCA Determined and Re-Demonstrated
D - Deficiency

B. Status of Jurisdictions Evaluated

This subsection provides information on the evaluation of each participating jurisdiction and functional entity, in a jurisdiction based, issues only format. Presented below is a definition of the terms used in this subsection relative to objective demonstration status.

Met - Listing of the demonstrated exercise evaluation area criteria under which no Deficiencies or ARCAs were assessed during this exercise and under which no ARCAs assessed during prior exercises remain unresolved.

Met* - Listing of the demonstrated exercise evaluation area criteria under which an ARCA was determined but through re-demonstration the ARCA was cleared.

Deficiency - Listing of the demonstrated exercise evaluation area criteria under which one or more Deficiencies were assessed during this exercise. Included is a description of each Deficiency and recommended corrective actions.

Area Requiring Corrective Actions - Listing of the demonstrated exercise evaluation area criteria under which one or more ARCAs were assessed during the current exercise or ARCAs assessed during prior exercises remain unresolved. Included is a description of the ARCAs assessed during this exercise and the recommended corrective action to be demonstrated before or during the next biennial exercise.

Not Demonstrated - Listing of the exercise evaluation area criteria which were not demonstrated as scheduled during this exercise and the reason they were not demonstrated.

Prior ARCAs - Resolved - Descriptions of ARCAs assessed during previous exercises that were resolved in this exercise and the corrective actions demonstrated.

Prior ARCAs - Unresolved – Descriptions of ARCAs assessed during prior exercises that were not resolved in this exercise. Included is the reason the ARCA remains unresolved and recommended corrective actions to be demonstrated before or during the next biennial exercise.

The following are definitions of the two types of exercise issues that are discussed in this report.

A **Deficiency** is defined in the FEMA REP Program Manual as "...an observed or identified inadequacy of organizational performance in an exercise that could cause a finding that offsite emergency preparedness is not adequate to provide reasonable assurance that appropriate protective measures can be taken in the event of a radiological emergency to protect the health and safety of the public living in the vicinity of a nuclear power plant."

An **ARCA** is defined in the FEMA REP Program Manual as "...an observed or identified inadequacy of organizational performance in an exercise that is not considered, by itself, to adversely impact public health and safety."

FEMA has developed a standardized system for numbering exercise issues (Deficiencies and ARCAs). This system is used to achieve consistency in numbering exercise issues among FEMA Regions and site-specific exercise reports within each Region. It is also used to expedite tracking of exercise issues on a nationwide basis.

The identifying number for Deficiencies and ARCAs includes the following elements, with each element separated by a hyphen (-).

Plant Site Identifier - A two-digit number corresponding to the Utility Billable Plant Site Codes.

Exercise Year - The last two digits of the year the exercise was conducted.

Evaluation Area Criterion - A letter and number corresponding to the criteria in the FEMA REP Program Manual.

Issue Classification Identifier - (D = Deficiency, A = ARCA). Only Deficiencies and ARCAs are included in exercise reports.

Exercise Issue Identification Number - A separate two (or three) digit indexing number assigned to each issue identified in the exercise.

1. WASHINGTON STATE

1.1 Emergency Operations Center (EOC) – This facility is located in Building 20 at Camp Murray, Washington.

a. **MET:** Criterion 1.a.1, 1.b.1, 1.d.1, 1.e.1, 2.a.l; 2.d.1, 2.e.1, 3.c.1, 3.d.1, 3.e.1; 3.e.2; 3.f.1, and 5.b.1. ARCA cleared: 69-00-12-A-04
Two issues: 69-02-1.c.1-A-01, and #69-02-2.d.1-A-02 (re-demonstrated and cleared.

September 17, 2002

The State of Washington used effective procedures to ALERT, notify, and mobilize emergency personnel and activate their Emergency Operations Center at Camp Murray in a timely manner. At 0819 on September 17, 2002, the Washington Emergency Management Division (WAEMD) received a Crash Call in the WAEMD Duty Officer's Office. The call came from the control room at the Columbia Generating Station (CGS). CGS was notifying WAEMD that an incident happened at the generating station and the Emergency Classification Level (ECL) was at the ALERT. The WAEMD Duty Officers waited for the confirming facsimile. When the ALERT FAX was received it was matched with the information taken over the telephone. The Duty Officer notified the EOC Supervisor. He instructed the Duty Officer to blast FAX the WAEMD staff with the message to report to the EOC. The EOC Supervisor then made a general announcement to the full-time staff in the building to report to the EOC. He stated that the CGS had a fire and the plant was on ALERT status. EOC staff began to arrive at State EOC almost immediately as they were already performing their daily duties in the building. The Extent-of-Play Agreement allowed pre-staging of personnel normally assigned to WAEMD, as it was their normal workday. External staff members were blast paged from their agencies. The EOC Supervisor notified the Adjutant General's office and the Governor's office.

Staff arrived and signed in at the computer, and immediately began carrying out their assigned duties.

The EOC Supervisor declared the EOC fully functional at 0937. The EOC Supervisor declared the EOC to be operational at 0841. The following agencies/organizations mobilized to the EOC: Washington National Guard; WAEMD; Washington Department of Health; Washington Department of Transportation; Washington State Department of Agriculture; Washington State Patrol; Washington Energy Facility Site Evaluation Council; Energy Northwest (CGS); Oregon Office of Energy; ARC; and RACES.

As each ECL change notification arrived at the EOC, the staff was made aware of that change. The Counties also received these notification changes from the State EOC, although not timely. See comments in Walla Walla and Yakima write-ups. The State of Oregon was not notified per Memorandum of Agreement between the States of Washington and Oregon.

Based upon the EOC staff computer roster, Administrative Staff began developing shift-staffing patterns to cover multiple shifts.

The Washington State EOC at Camp Murray was adequate to support the emergency response function. The WAEMD moved into their newly constructed, specifically designed, building in 1998. This new facility located at Camp Murray, Washington, is also the site for the Washington National

Guard Headquarters. This four-year-old facility has proven to be a very efficient and functional facility for administrative, training, fiscal and emergency operations. This facility is home to all departments of Washington State Emergency Management.

The emergency and command functions operate in several areas. The Duty Officer's Room receives all of the initial communications from outside callers. The Duty Officer either provides immediate resolve to a call or transfers the call to an appropriate staff member for action. The Duty Officer's function is a 24/7 operation with a minimum of two Duty Officers per twelve-hour shift. Within the Duty Officer's Room are duplicate sets of telephones, radios and other communication devices. There are facsimile devices to receive FAX messages; there are two "Crash" telephones for the receipt of emergency messages from the CGS. These "Crash" telephones provide for a direct link between the CGS, the State EOC, staff at the various Emergency Planning Zone (EPZ) Counties. There are 16 telephone lines coming into the Duty Officer's Room for the receipt of, and sending, telephone communications.

The Message Room receives messages from the Duty Officer's Room and makes required copies for distribution to EOC staff members. The Message Room also provides the EOC duplication services.

The EOC provides for a large room where the bulk of the Emergency Operations Staff operates and conducts their individual staff functions. Each EOC function has a POD made up of computer desks and tabletop computers for staff members. All computers are electronically connected together for the conduct of emergency operations, Internet and e-mail access. At the head of the EOC are three large capacity video projectors and screens for the display of television broadcasts, graphics, and video conferencing capabilities. Along three walls are 16 large screen television monitors used for displaying graphics, messages, and viewing television. Each POD has a microphone for staff briefings. Each desk/POD has at least one telephone and some have two or three for various emergency functions. There are two large capacity network printers in the EOC for the printing requirements of the staff.

The Policy Room on the second level of the building is where the EOC and various agency heads conduct their decision-making functions. The room contains large screen television monitors to view news broadcasts or internal broadcasts of the EOC staff briefings. There is an audio capability for the Policy Room members to talk and listen to the staff members on the EOC floor. There are telephones and teleconferencing capabilities in the Policy Room. The EOC facility has excellent lighting, air conditioning, and heated for all seasonal conditions. There are sufficient bathroom facilities to provide for the comfort of all of the EOC staff and guests.

The facility has more than adequate backup generator facilities. There are three 500 KW generators that have the capability to provide electrical power to the entire facility. The generators are tested monthly and EOC selects one day during the year that the whole building is run on the generators. The generators are maintained by a Military Department maintenance service. The organization and layout of the EOC functions are in accordance with the Washington State Emergency Response Plan.

The EOC Supervisor provided effective direction and control for staff at the Washington State EOC on September 17, 2002. At 0819, the EOC Supervisor began activation following the receipt of the ALERT ECL. He used the pubic address system to request all EOC staff in the building to report to the EOC at once.

At each escalation of the ECL, the EOC Supervisor reminded staff to review their procedures and focus on the actions needed to complete the response. He also encouraged them to think about what actions they might need to take based on future actions of the Counties.

The EOC Supervisor endeavored to provide staff with the most current information. He held two general briefings (at 0958 and 1300) to update staff on actions in all functions. At least one person from each functional POD was responsible for reporting this information to staff at their POD if they were otherwise occupied during the briefings. The first briefing was suspended during a CRASH call with the first PAR.

The EOC Supervisor frequently reminded the staff to announce important information to the entire EOC. This occurred when there was a change in the ECLs or weather conditions. Unfortunately, the operations staff announced as well the changes in the PARs from the CNFs. These PARs could be misunderstood as PADs by some of the EOC staff. Disseminating the PAR information to only select EOC staff (e.g., the Policy Room and Information Analysis and Planning [IAP] staff) would prevent any misunderstanding, especially during the plume phase when the Counties are making the PADs.

The primary source of information for EOC staff was from the internal e-mail message system. One person at each functional POD was responsible for reading all incoming e-mail and reporting new information to the rest of the staff at their POD. FAXed messages were scanned and sent via the e-mail system soon after they were received. All e-mail messages were automatically logged onto a file server. This file server went down at 1101, and the IAF Supervisor made a general announcement at 1112. The EOC Supervisor further clarified this announcement stating that e-mail was still functional, but that staff should save their files to the C drive of their individual computers. The file server did become functional soon after, with no apparent deleterious effect.

There were also a few internal messages that used three-part paper message forms. These messages were placed in the mail slots located in one corner of the EOC. Although the EOC Supervisor never reminded staff to periodically check these mail slots for messages, most messages were picked up and read in a timely manner. However, one message for the Oregon State Liaison about food crops in the field remained in the mail slot from about 1230 on September 17th until 1030 on September 18th. There was no apparent negative effect in this case, but prompt message review is considered essential.

One potential information flow problem was quickly identified and resolved. A draft of an agricultural advisory was incorrectly distributed via e-mail to the entire EOC. The public information staff quickly identified the message and verified with the agriculture staff that it was indeed only a draft.

There was no central location or status board where all EOC staff could obtain the facts on the current situation. There was an EOC significant events log displayed on TV monitors throughout the EOC, and periodically a map with the traffic and access control points was displayed in the EOC. Staff had to sift through various sources to determine the current PADs, the areas affected, and other significant information. The Public Information staff kept their own status board, which they updated in a timely manner, but this board was not readily visible to most of the other EOC staff. A central location is necessary since decisions during the plume phase are made outside the State EOC.

The operations staff generated two situation reports (SITREPS), the first with information as of 0935 and the second with information as of 1615. Neither was useful to the EOC staff since the information was outdated by the time they were approved and distributed. Also, SITREP No. 2 did not specify the PADs the Counties and DOE had made, or the PAD for KI for Emergency Workers.

The WAEMD communication systems performed in accordance with their plans and procedures and the Extent-of-Play. The primary communication system is the CRASH telephone. This Crash Telephone System is a system that is operated by the CGS. The system is a direct line between CGS, WAEMD, and jurisdiction Counties. The CRASH Telephone System easily provides for conference capabilities with selected parties or all parties in the telephone network. The secondary system is the commercial telephone system. Both systems were demonstrated and worked as designed. Several staff members expressed serious concern about the ineffectiveness of the speakerphone option, as through most of the exercise play the Crash telephone speakerphones were ineffective.

Additional communication systems used are facsimile machines between CGS, WAEMD, jurisdiction Counties, and other agencies and jurisdictions. There is a satellite telephone system, and analog telephone line, which is independent of the EMA internal telephone system. WAEMD also uses e-mail for written document communications among the EMA staff, CGS, and the jurisdiction Counties.

Equipment, maps, displays, and other supplies were sufficient to support emergency operations. There is more than adequate equipment, such as desks, chairs, computers, maps and charts to operate emergency operations for a sustained period of time. The maps depict the EPZ. Maps depicting various situations are also shown on the large projection screens using LCD projectors. Along three walls in the EOC are 16 television monitors to monitor the media or to display graphic data such as maps. Each POD in the EOC has a speaker to monitor the audio portions of those television displays. Direct Reading Dosimeters, survey instruments, and KI are not applicable for use at the State EOC.

In accordance to the Plan/Procedures and the Extent-of-Play Agreement for the CGS Exercise, the Health Officer for WSDOH has the authority and responsibility to authorize exposure levels to Emergency Workers in excess of pre-authorized levels. In addition, the WSDOH Health Officer makes the decision to authorize KI for use by Emergency Workers. The decision to use KI was based on a projected thyroid dose compared with the established PA Guides (PAGs) for KI administration. The KI decision-making process involved close coordination among the MUDAC assessment and the decision-making staff in the Policy Room.

The initial KI PAR from the Emergency Operation Facility (EOF) staff was received in the EOC at 1157. The PAR was based on the State criteria of a 250 mRem/h thyroid dose. The WSDOH Health Officer's Support Health Physicist (HP) in turn contacted the MUDAC dose assessment staff to verify the source for meeting the criteria for thyroid dose. Based on the information received, the WSDOH Health Officer made the decision to have the Emergency Workers deployed for field duty within the 10-mile EPZ in Sections 1 and 2 to take KI.

This decision was then verbally transmitted to the Benton and Franklin County EOCs at 1208. After the verbal order, the IAP POD prepared the "Initial Potassium Iodide (KI) Decision Packet." The packet was approved by the Policy Room staff at 1250 and distributed to the statewide authorities involved in the CGS response via the Message Center.

The decision packet consisted of a brief description of the decision, the sections and/or other areas affected, jurisdictions which the decision was coordinated with, what time, and a distribution list.

The PARs potentially affecting special populations were announced in the EOC at 0945 on September 17. The Red Cross volunteers working in Franklin County are responsible for contacting these populations and coordinating any requests for assistance. These contacts are carried out via phone, and verified at 1300 by the Red Cross representative in the EOC contacting the volunteer in Franklin County who was discharging this task. No requests for logistical support were received in the EOC.

The Red Cross representative in the EOC anticipated the need to move the shelter being established in Benton City due to a change in the wind and plume direction on September 17. The relocation of this shelter with 15 families was verified by phone call with the Red Cross representative in Franklin County at 1245.

Information on the location of traffic control points was received in the EOC beginning at 1048 on September 17. The default locations and manning responsibilities were on maps in the EOC. Control point status was posted beginning at 1101. Updates to the status and locations were made at regular intervals (at 1215 on September 17 and at 0953 on September 18). The locations were changed to reflect changing PADs. WSP anticipated the need for their assistance in establishment and manning of food control points and considered the impact on staffing. Consultation with other agencies planning for the implementation of anticipated PAs was not observed.

Benton County requested a fire mobilization at 1340. At 1355 the required approval was obtained from the AG. Ten engines, 3 aerial structural engines, 14 medic units, 6 brush engines and 6 water tenders were obtained. They were mobilized with 103 personnel, and a rendezvous was arranged. Final assignments were made and transmitted to the responding units.

The WSP demonstrated the control of radiation exposure to its staff by verifying the administration of KI at 1215 on September 17, by telephone from the EOC to WSP at Benton County. They verified that DOH was consulted when a report of a dose rate from a self-reading dosimeter at a potentially exposed location was received.

The SAE ECL and the associated automatic PARs were announced in the EOC at 0945 on September 17. The automatic PARs include Columbia River closure. The DOT representative was not observed verifying this PA implementation. Notification of the closure of the Richland airport was made in an EOC update at 1318. The DOT representative verified this closure at 1350 by phone contact with the Benton County EOC. No activity by the DOT participant concerning rail was observed on September 17.

The Washington National Guard was particularly pro-active. During the exercise they described their authority and available resources during several EOC updates. They simulated the mobilization of 64 staff, two helicopters, 10 vehicles, communications and fixed resources. Provisions were made for 24-hour staffing and lodging. They anticipated transportation difficulties and had several back-up plans developed to reach TCPs.

During the plume phase of the exercise, the WSDA staff at the EOC had a very limited role in the implementation of ingestion exposure pathway PARs and PADs. The decision to issue agricultural advisories is a County function that is based on initial recommendations provided by the WSDA County Liaison positioned at the Benton County EOC.

Following the GE declaration, which was received in the State EOC at 1000 hours, Franklin County issued an agricultural advisory. Notification of the agricultural advisory to transportation carriers, dairies, food processors, and food producers was completed at the WSDA Incident Command Center (ICC) in Olympia and communicated to WSDA staff at the EOC. At 1208, the State EOC received CNF No. 6 detailing a shift in the wind direction. As a result of the change in wind direction, revised agricultural advisory recommendations were made, which included parts of Benton, Yakima, and Klickitat Counties. In accordance with its Plan and Procedures, WSDA made the decision to accept the recommended advisory for Klickitat County (small population with few roads). Benton and Yakima Counties also accepted the boundaries and released agricultural advisories. There was a delay in receiving Benton County's agricultural advisory. The advisory was eventually received in the State EOC at 1630. The WSDA ICC Phone Team called transportation companies with the revised agricultural advisories. This warned them to route any shipments of uncovered agricultural products around the recommended agricultural advisory area. Processors, dairies, and producers in the affected Counties were also contacted with current information. (WSDA staff at the EOC did not receive notification of this action before the plume phase of the exercise was terminated.)

The WSDA staff and the State of Oregon Agricultural Liaison communicated frequently throughout the plume phase of the exercise to share information and actions being taken by each State to implement agricultural PA recommendations.

The Phone Team at the ICC using information obtained from the WSDA Food Safety and Animal Health Division's two databases completed the agricultural advisory notification process. The databases included information on the location of food processing facilities, food distribution centers, dairies, livestock and poultry plants, wineries, and warehouses. Farm data, including location, ownership and crop type is collected from various agencies, including County Agricultural Coordinators, Extension Agents, and Food Safety Officers. These records are also maintained on the database. The location information, which includes addresses, contact persons, and telephone numbers, is reviewed and updated on a continuous basis. The Counties provided information (based on a working knowledge of the affected area) on the location of crops and the harvest periods to its counterparts at the EOC and the ICC. The ICC staff and the WSDA Liaisons at the EOC referred to the WSDA Radiological and Chemical Emergency Procedures for information on the transportation companies (barge lines, railroads, trucking firms) that transport agricultural products.

The EOC has the capability to disseminate to the public and the media appropriate emergency information and instructions. There was a previous ARCA (69-00-12-A-04) generated when "The WA EOC PIO did not follow the checklist action items and operating procedures concerning monitoring media reports for accuracy and did not ensure PIO staff had copies of News Releases by other jurisdictions, including the critical EAS messages issued by the Counties." The actions necessary to close the ARCA were satisfactorily demonstrated. The Public Information Phone Team monitored the media. This was accomplished by access to 16 TV monitors in the EOC and by monitoring the Internet for storyline updates. Three media monitoring reports (e-mails) were generated during the plume phase and distributed. The Public Information Manager sought and obtained copies of News Releases from all organizations involved in the response and of EAS messages issued by Franklin and Benton Counties. An issue relating to the receipt of News Releases from the Joint Information Center will be discussed below.

The Public Information Section of the EOC serves as the initial location for media contact with the State prior to the JIC being activated, as a support location for public information activities once the

JIC is activated, and as support for the Governor's Communications Director. There is sufficient staff and technology available within the EOC to provide accurate and consistent information to the media and the public. The EOC also provides a media monitoring process and a public/media inquiry system for dealing with rumors.

The primary location for public information is the JIC. The State spokespersons are at the JIC. Media briefings may also be held at the EOC. The Public Inquiry Hotline is located at the JIC. The Public Phone Team at the EOC fields some calls from media and public.

The Public Information staff is knowledgeable, well trained, and professional. The Manager provided detailed direction and control to the State Public Information staff, and sought copies of News Releases from all organizations involved in the response and the EAS messages issued by Franklin and Benton Counties. News Releases were obtained from Franklin County, Benton County, State of Oregon, Energy Northwest, Walla Walla County Kindercare Learning Center, Richland School District, and Richland Water Operations.

Initially News Releases from other organizations at the JIC were timely, but FAXing limitations at the JIC eventually caused delays of up to two hours in some instances. These delays meant that the Public Phone Team did not have the latest documentation. The Public Phone Team was updated verbally on all critical information and maintained a status board for such data. The Public Phone Team members maintained a binder organized by jurisdiction for News Releases, decision packages, EAS messages and other critical information.

The Public Support staff logged incoming and outgoing messages including calls from the media and the public. Calls from the media and the public were referred to the JIC or Counties, as appropriate. If specific local information was not needed, the Phone Team answered calls. Responses to the media and public were germane to the questions asked and reflected the current status. The Phone Team also monitored the media. This was accomplished by access to 16 TV monitors in the SEOC and by monitoring the Internet for storyline updates. Three media monitoring reports (e-mails) were generated during the plume phase and distributed. Calls from the public and the media were evaluated for trends. No trends were identified at this location.

The PI staff at the EOC prepared draft Press Releases during the plume phase related to the EOC activation (0850), the Governor's Proclamation (1115), the Recovery Efforts Task Force (1315), and the State Fire Mobilization (1430). The Press Releases were drafted in parallel with the decision packages. In all, four Press Releases were issued by the State during the plume phases. The Press Releases were reviewed and approved as appropriate and forwarded to the JIC for final review and distribution. The Press Releases accurately described the decisions that were implemented. The PI staff also prepared talking points for the State PIO and for the Governor's Office.

September 18, 2002

The EOC Supervisor provided effective direction and control for staff at the EOC on September 18, 2002. During the post-plume phase of the CGS exercise the EOC and Department Supervisors demonstrated their knowledge of the EOC Plans and Procedures. They demonstrated their ability to communicate and coordinate among themselves to come to a consensus on operational issues during the exercise. They communicated and coordinated with other agencies on emergency operations dealing with the post-plume exercise. The Department Supervisors directed their staff in researching information needed to develop recommendations and decisions to minimize the serious effects of the

radioactive plume. The EOC Supervisor conducted two briefings for the staff and the staff provided one briefing to the EOC Supervisor as to the status of issues being worked. The EOC Supervisor became concerned about staff members reacting to PARs versus PADs and clarified the differences.

The staff in the EOC Policy Room demonstrated effective decision-making by coordination and considering relevant factors to ensure the use of appropriate KI for Emergency Workers.

At 1110 they participated on a CRASH call to discuss the PAR for the cancellation of the PAD for ingestion of KI by Emergency Workers. The staff from the DOH requested copies of the decisions the Counties made the previous day before making their decision and were surprised that this information was not readily available in the State EOC. Eventually copies of this information were received.

The State Health Officer determined there were three categories of Emergency Workers: those who had ingested KI and had recorded exposure on their dosimetry during their shift; those who had ingested KI and had not recorded exposure on their dosimetry during their shift; and those who had yet to begin their shift in the areas under the KI ingestion PAD. It was concluded that only those Emergency Workers who had received measurable exposure should continue to ingest KI for three days. The other Emergency Workers should discontinue or not ingest KI at all.

Before the decision was made, the Disaster Manager ensured that the Counties concurred. The revised KI decision was signed at 1227.

The staff in the EOC Policy Room did not demonstrate effective decision-making, consider relevant factors or make appropriate coordination, in decisions involving the ingestion pathway.

At 1250, MUDAC staff finalized their PAR for a food control area. The EOC received a copy of the PAR around 1311. Prior to this, there had been some discussion on the CRASH calls about food control measures. The concern of the Policy Room staff was to establish the food control area with enforceable, understandable boundaries. For the most part, they left the details to the staff on the EOC floor.

At 1400, the Policy Room staff initiated a conference call with the affected Counties (including Klickikat and Yakima) to discuss the geo-political points and boundaries for the proposed food control area. Franklin County requested permission to rescind their Agricultural Advisory. The WSDA representative in the Policy Room agreed and informed Franklin County at 1421. This rescission of the Agricultural Advisory was to be included in the pending decision on relocation. (The Revised Return and Relocation PAD at 1517 did not include anything about the rescission of the Agricultural Advisory.) At 1446, Benton County concurred on the Food Control Area decision.

Due to problems establishing the boundaries of the food control area, the decision was not finalized until approximately 1730. In the rush to finalize the boundaries for this decision, some of the original MUDAC recommendations for the public in this area were not included; e.g., to not consume milk from their family farm animals, and to drink only bottled water or water from covered sources. Also, the decision did not include language about the safety of canned or frozen foods, and food in grocery stores, which had been included in the decision and News Release from the State of Oregon at 1506. (Both the MUDAC recommendation and the Oregon News Release had been distributed and available in the Policy Room for some time.)

Immediate correction of this issue was demonstrated. After controller intervention and re-training, the necessary language was added to the decision package, and it was signed at 1754.

The staff in the EOC Policy Room demonstrated effective decision-making, considered relevant factors and made appropriate coordination, in decisions involving timely relocation, re-entry, and return.

At 0912, they participated in a CRASH call about a PAR for the return of the public to Sections 1 and 2 in Franklin County. There was concern about the ability to implement the return. The Disaster Manager also wanted to ensure that Franklin County was comfortable with the decision. The Policy Room staff pressed the MUDAC for more information on their PAR, especially about any effect from potential re-suspension of the radioactive contamination from west of the river. MUDAC provided their air sampling results from west of the river and their calculations on re-suspension, which had led them to conclude that re-suspension would not be a health problems for those east of the river. The PAR also included opening the river to water traffic.

At 1050, after Franklin County had chosen their re-entry points for the returning population, and Benton County had concurred, the Disaster Manager signed the initial return decision. Implementation was set for noon.

In similar fashion, Policy Room staff worked on and made three further decisions: a revised return and relocation decision at 1507; a re-entry decision at 1517; and a transportation corridor re-opening decision at 1640. The Disaster Manager ensured that the Counties could implement the decisions and were comfortable with the decisions, and that the boundaries established for the areas were understandable to the public. They consulted with their EOC staff and involved them in finalizing the decisions.

There was a minor error in the wording of the re-entry decision. The decision describes an Access Control Point at the intersection of State Route 240 and State Route 24 5 (sic). The 5 was in error, but would surely have been picked up by the PIO staff and access control staff. The error may have resulted from the darkness of the EXERCISE watermark on the decision worksheets. Lightening of the watermark could prevent future editing errors and make the worksheet much more readable.

In accordance with the WSDA Plans and Procedures and the Extent-of-Play Agreement, the WSDA can request assistance from the United States Department of Agriculture (USDA) and the Food and Drug Administration (FDA). The type of assistance would primarily deal with locating produce and milk products for contamination testing (those products that passed through the deposition area on Day 1, and food control area on Day 2, and had left the State). The State requirements to implement embargos or condemnations lie within the WSDA ICC.

Condemned food products would be impounded for disposal under the regulations set forth by the Washington State Department of Ecology. Disposal of condemned products would be done under the supervision of WSDA.

PAs for rail and truck traffic were incomplete in the previous exercise for the CGS (ARCA 69-00-27-A-05). In Franklin County, railroad and truck traffic carrying food was restricted on Day 2 of the exercise. Rail traffic through the relocation area was restricted to 5 miles per hour and open food-carrying cars were prohibited. Trucks were restricted to 10 miles per hour and Food Control Points were established to prevent food products from leaving the Food Control Area. However, no PAs were taken specific to food-carrying railroad cars or trucks that may have passed through the plume

during the 25 hours prior to implementation of the restrictions. Although this issue was identified at the Franklin County EOC, it is listed under the Washington EOC since the State has the lead for implementing PAs during the Ingestion Phase. (NUREG-0654, J.9)

This ARCA was resolved during this exercise as staff at the WSDA ICC phoned transportation companies, including railroads, barge lines and trucking firms, with offices within the 50 mile Ingestion EPZ, to inform them of agricultural advisory boundaries and of revised agricultural boundaries and to request that no shipments of uncovered agricultural products be routed through those advisory areas. The Oregon State ECC was contacted and a request was made to stop any shipments of uncovered agricultural products traveling over the I-82 Bridge into Oregon. Once a food control area was established, the WSDA Liaison at the State EOC also contacted those transportation companies to determine if any uncovered shipments did travel through the ingestion plume. WSDA procedures require that any uncovered shipments that are determined to have traveled through the ingestion plume be identified and that information be sent to the Field Team Coordinator for inclusion in the detailed sampling plan. Truck, barge or rail shipments that have left Washington State might be detained.

Once the "Food Control Area" decision packet was approved, personnel from the IAP POD delivered it to the EOC Message C enter to be scanned and transmitted to the appropriate organizations and agencies. Implementation was then preformed at the County level with the assistance of WSDA Food Safety Officers deployed to the impacted area.

Food Control Area decision instructions made at the State level was communicated to organizations and the public via Press Releases made by the State, solely and jointly with the JIC. The State PIO staff prepared a draft Press Release at 1830 that included food control information.

In accordance with the WSDOH Plans and Procedures and the Extent-of-Play Agreement, the WSDOH staff coordinated the data necessary for the "Relocation" decision packet prepared by the IAP POD and presented to the Policy Room for approval. The packet was revised as necessary and approved (signed off) at 1507. Once the packet was approved, personnel from the IAP POD delivered it to the EOC Message Center to be scanned and transmitted to the appropriate organizations and agencies. Implementation was then performed at the County level.

Relocation decision instructions made at the State level were communicated to organizations and the public via Press Releases made by the State, solely and jointly with the JIC. The State PIO staff prepared Press Release No. 2 at 1645 that included relocation information.

The WSDOH staff coordinated the data and information necessary for the "Re-entry" decision packet prepared by the IAP POD and presented to the Policy Room for approval. The packet was revised and approved at 1517.

The WSDOH staff coordinated the data and information necessary for the "Initial Return" and "Revised Return" decision packets prepared by the IAP POD and presented to the Policy Room for approval. The packets were revised as necessary and approved at 1050 and 1507 respectively.

Re-Entry decision instructions made at the State level were communicated to organizations and the public via Press Releases made by the State, and jointly with the JIC. The State PIO staff prepared Press Release No. 1 at 1118 that dealt with the initial re-entry information. At a later time, the PIO staff prepared Press Release No. 2 at 1645 that included the revised return information.

On the second day of the exercise, the PI staff prepared draft information for Press Releases during the post plume phase. The PI staff prepared information for the initial return to Franklin County (1118), the revised return to Benton County (1645), the reentry into the relocation area (1645), and the food control area (draft approximately 1830). The information was drafted in parallel with the decision packages. In all, three Press Releases were issued during the post plume phase. The information was reviewed and approved as appropriate and forwarded to the JIC for final review and distribution. The Press Releases accurately described the current status.

b. DEFICIENCY: NONE

c. AREAS REQUIRING CORRECTIVE ACTION:

Issue No.: 69-02-1.c.1-A-01

Condition: Failure to coordinate/notify State of Oregon per Memorandum of Understanding as well as untimely notification to other OROs regarding ECLs, etc.

As planned, the Yakima Valley Primary Emergency Operations Center (PEOC) depends on the State EOC at Camp Murray, Washington, for information if an incident occurs at the CGS. The initial FAX comes to the County's 24-hour warning point in the Yakima Sheriff's Office and a NAWAS call is received at the County 911 dispatch. After the initial notification, the FAXes are received in the OEM. The Ingestion Counties are not included on a dedicated phone line, thus, the information must be provided by an entity other than the CGS.

The CGS CNF provides the Utility information t the State. Nine CNFs were issued during the exercise held on September 17, 2002. These were received as follows:

1. CNF No 1 was issued 0804 on September 17, 2002, and received at 0834. Interval = 30 minutes.

2. CNF No. 2 was issued 0848 and received 0928 = 40 minutes.

3. CNF No. 3 issued 0935 and received 1017 = 42 minutes after SAE ECL.

4. CNF No. 4 issued 0951, received 1054 = one hour and 3 minutes (63 min.) after the GE ECL.

5. CNF No. 5 issued 1105, received 1153 = 48 minutes to learn that a radiological release had started.

6. CNF No.6 issued 1150 and received 1218 = 28 minutes. (Excellent, unfortunately it was about KI which doesn't involve Yakima.)

7. CNF No. 7 issued 1205 and received 1322 = 77 minutes. (One hour and 17 minutes to learn that the wind is now blowing right at you at 8 mph.)

8. CNF No. 8 issued 1343 and received 1436 = 53 minutes.

9. CNF No. 9 issued at 1508 on September 27, 2002. The FAX was received by the Yakima County PEOC at 1221 on September 18, 2002. This transmission took 23 hours and 13 minutes.

In addition, a Status Report for Mission #E02-098 was issued at 1614 on September 17, 2002, by WAEMD, and this document also contained the 50-degree wind shift information. This document was received by Yakima County PEOC at 0924 on September 18, an elapsed time of 17 hours and 10 minutes.

Possible Cause: The State of Oregon is not included in the EOC blast FAX notification list or other notification checklists although Washington has signed a Memorandum of Understanding with Oregon covering this issue. Procedures are not in place to timely notify Walla Walla and Yakima Counties either by including all OROs on a blast FAX listing or other method of prompt notification

Reference: NUREG-0654 - A.1.d., 2.a., b.

Effect: Untimely notification to the State of Oregon and Washington OROs.

Recommendation: Develop a reliable and prompt communication system with State of Oregon and all Washington OROs. Evaluate the current FAX procedures. Continue the FAX process for hard copy records but utilize NAWAS, telephones, or E-mail for information flow.

Schedule of Corrective Actions: The Washington State Integrated Fixed Facility Radiological and Chemical Plan SOPs will be changed to include sending e-mails to each of the affected Washington State counties and the State of Oregon. This will be followed up with phone calls and faxes to each of these entities.

Issue No.: 69-02-2.d.1-A-02 – (Re-demonstrated and Cleared.)

Condition: EOC Policy Room did not demonstrate effective decision-making, consider relevant factors or make appropriate coordination, in decisions involving the ingestion pathway.

Possible Cause: At 1250, MUDAC staff finalized their PAR for a food control area. The EOC received a copy of the PAR around 1311. Prior to this, there had been some discussion on the CRASH calls about food control measures. The concern of the Policy Room staff was to establish the food control area with enforceable, understandable boundaries. For the most part, they left the details to the staff on the EOC floor.

At 1400, the Policy Room staff initiated a conference call with the affected Counties (including Klickikat and Yakima) to discuss the geo-political points and boundaries for the proposed food control area. Franklin County requested permission to rescind their Agricultural Advisory. The Department of Agriculture representative in the Policy Room agreed and informed Franklin County at 1421. This rescission of the Agricultural Advisory was to be included in the pending decision on relocation. (The Revised Return and Relocation decision at 1517 did not include anything about the re-

scission of the Agricultural Advisory.) At 1446, Benton County concurred on the Food Control Area decision.

Due to problems establishing the boundaries of the food control area, the decision was not finalized until approximately 1730. In the rush to finalize the boundaries for this decision, some of the original MUDAC recommendations for the public in this area were not included: to not consume milk from their family farm animals, and to drink only bottled water or water from covered sources. Also, the decision did not include language about the safety of canned or frozen foods, and food in grocery stores, which had been included in the decision and News Release from the State of Oregon (1506). (Both the MUDAC recommendation and the Oregon News Release had been distributed and available in the Policy Room for some time.)

Immediate correction of this issue was demonstrated. After Controller intervention and re-training, the necessary language was added to the decision package, and it was signed at 1754.

*

Reference: NUREG-0654, I.8, J.11

Effect: Incomplete PAD information.

Recommendation: Re-training sufficed as stated.

Remedial Action Demonstrated: Re-demonstrated after Controller intervention.

Schedule of Corrective Actions: N/A

d. **NOT DEMONSTRATED:** NONE

e. **PRIOR ARCAS – RESOLVED**

Issue No. 69-00-12-A-04

Description: Media Reports and News Releases not monitored.

Corrective Action Demonstrated: The PIO followed the checklist action items and operating procedures concerning monitoring media reports for accuracy and did ensure PIO staff had copies of News Releases by other jurisdictions, including the critical EAS messages issued by the Counties.

1.2 Washington Department of Agriculture Incident Command Center (ICC) –

This facility is located in the Natural Resources Building, 2nd Floor, 1111 Washington Street, Olympia, Washington.

a. **MET:** Criterion 3.e.1 and 3.e.2.
ARCA cleared: 69-00-27-A-05. No new issues.

The Washington State Department of Agriculture (WSDA) demonstrated the capability to implement PAs for the ingestion exposure pathway (September 18, 2002). WSDA has responsibility for communicating and implementing PA decisions during the ingestion pathway phase of a radiological emergency. The WSDA communicates PA information to food processors, dairies, meat and poultry producers, wineries, and fruit and vegetable growers. To prevent agriculture crops and dairy products from leaving the 50-mile ingestion exposure EPZ, WSDA enforces the Food Control Area and embargoes the product until it can be monitored for radiation contamination.

On September 18, 2002, during the ingestion pathway phase of the exercise, WSDA's ICC staff simulated calls to food processors and dairies regarding PAs on two occasions at 1504 (Franklin County agricultural advisory cancellation) and 1842 (Benton, Yakima & Klickitat Counties of final food control decision). After the food control decision package was signed and received in the ICC, the geopolitical boundary descriptions were added to the pre-scripted blanket embargo notice and sent back to the decision makers in the State EOC. The embargo notice was also faxed to the Agricultural Field Office in Pasco for staffing of food control points.

All available Food Safety Officers and Food Safety Supervisors, a total of 21 staff, were dispatched to the Tri-Cities area to assist with food control activities on the evening of September 17 (simulated). On September 18, at 1600, ICC sent a memo to the Executive Management Team identifying additional 30 staff members, familiar with embargo procedures that could be used at food control points. The ICC and Pasco Field Office coordinated and identified 11 Food Control Points in Benton County, 2 in Yakima County, and 1 in Klickitat County. The final food control decision package was approved at 1815.

Federal assistance was requested during the plume phase of the exercise. At 1015, the WADOH requested federal assistance, Federal Radiological Monitoring and Assessment Center (FRMAC), from the U.S. Department of Energy (DOE) in Las Vegas, Nevada. A representative from the Nuclear Regulatory Commission (NRC) participated in the exercise. A FRMAC advance party briefing was held on September 17 at 2030 hours (simulated).

According to WSDA's Radiological and Chemical Emergency Procedures, WSDA's personnel coordinate with law enforcement personnel to establish and maintain food control points to prevent contaminated food products from being taken outside of the food control area. Although simulated calls were not made to law enforcement personnel there was a discussion in the ICC during its identification of staff needed for food control points. WSDA notifies affected farms, food processors, and transportation carriers of the terms of the embargo by direct contact (issuing embargo papers), telephone, media, and at food control points.

The Recovery and Restoration Task Force (RRTF) is responsible for making the final decision on what to do with embargoed agricultural products that have been contaminated. During the plume

phase of the exercise, at 1306, the Governor activated the RRTF. Once the decision is made by the RRTF, WSDA would oversee the destruction of contaminated agricultural products.

The WSDA and WAEMD updates and distributes an Emergency Instructions Booklet, published in both English and Spanish, that includes radiological information for farmers and gardeners to residents and businesses within the 10-mile EPZ. In addition to the booklet, an agricultural PA tri-fold leaflet has been prepared that provides information to the agricultural population within the 50-mile EPZ. Copies are printed and distributed as soon as a GE level is declared. The leaflets are kept at pre-determined locations in each County and can be easily reproduced in quantity and are distributed at fire stations, feed lots, etc. Food Safety Officers were instructed to take approximately 200 copies to distribute at the food control point. This leaflet was available in English. (Note: A Spanish version was prepared and distributed in October 2002.)

Contact with food processors and dairies regarding PAs were simulated on two occasions at 1504 (Franklin County agricultural advisory cancellation) and 1842 (Benton, Yakima, and Klickitat Counties of final food control decision). After the food control decision package was signed and received by ICC staff, the geo-political boundary descriptions were inserted into the pre-scripted blanket embargo notice and sent back to the decision makers in the EOC. The embargo notice was also FAXed to the Agricultural Field Office in Pasco for staffing of food control points.

b. DEFICIENCY: NONE

c. AREAS REQUIRING CORRECTIVE ACTION: NONE

d. NOT DEMONSTRATED: NONE

e. PRIOR ARCAs - RESOLVED:

Issue No.: 69-00-27-A-05

Description: PAs for rail and truck traffic were incomplete in the previous exercise for the CGS. In Franklin County, railroad and truck traffic carrying food was restricted on Day 2 of the exercise. Rail traffic through the relocation area was restricted to 5 miles per hour and open food-carrying cars were prohibited. Trucks were restricted to 10 miles per hour and Food Control Points were established to prevent food products from leaving the Food Control Area. However, no PAs) were taken specific to food-carrying railroad cars or trucks that may have passed through the plume during the 25 hours prior to implementation of the restrictions. Although this issue was identified at the Franklin County EOC, it is listed under the Washington EOC since the State has the lead for implementing PAs during the Ingestion Phase. (NUREG-0654, J.9)

Corrective Action Demonstrated: The staff at the WSDA ICC resolved this ARCA. They phoned transportation companies, including railroads, barge lines and trucking firms, with offices within the 50-mile Ingestion EPZ, to inform them of agricultural advisory boundaries, revised agricultural boundaries, and to request that no shipments of uncovered agricultural products be routed through those advisory areas. The Oregon State EOC was contacted and a request was made to stop any shipments of uncovered agricultural products traveling over the I-82 Bridge into Oregon. Once a food control area was established, the WSDA Emergency Management Liaison at the State

EOC also contacted those transportation companies to determine if any uncovered shipments did travel through the ingestion plume. WSDA procedures require that any uncovered shipments that are determined to have traveled through the ingestion plume be identified and that information be sent to the Field Team Coordinator for inclusion in the detailed sampling plan. Truck, barge or rail shipments that have left Washington State might be detained

f. **PRIOR ARCAs - UNRESOLVED**: NONE

1.3 WSDA Milk Sampling Drill

a. **MET:** Criterion 1.d.1, 3.a.1, 3.b.1, and 4.b.1. No new issues.

All communications were simulated during the milk sampling drill (cell phones and pagers were available).

The ability to issue appropriate dosimetry and to manage Emergency Worker exposure was adequately demonstrated in an out-of-sequence milk sampling drill on July 25, 2002. The sampling team consisted of two members, a WSDA Food Safety Officer and a WADOH field team member. The DOH staff member had been issued dosimetry prior to arriving at the WSDA field office in Franklin County. The WSDA Food Safety Officer obtained an Emergency Worker Kit in the field office that contained a 0-20 R DRD, a TLD, a blister pack of KI, and appropriate forms and instructions. The Food Safety Officer checked the DRD to ensure that it did not require zeroing. He completed all forms with personal information, the serial numbers of the dosimetry, and the initial DRD reading. A dosimeter charger was available if the DRD needed to be charged. The KI had an expiration date of August of 2005.

The Food Safety Officer read his DRD at 30-minute intervals when he was in the potentially contaminated area. He was aware of his exposure limit and he relied on the DOH sampling team member for any radiological information. He was aware that at the completion of his sampling assignments he would have reported to the designated EWAC center for monitoring, decontamination, and dosimetry collection.

The availability of KI for Emergency Workers was adequately demonstrated in an out-of-sequence milk sampling drill on July 25, 2002. The WSDA Food Safety Officer had a blister pack of KI tablets with an expiration date of August 2005 that he obtained as part of his Emergency Worker Dosimetry Kit. He was aware that he was not to ingest the KI unless directed by his supervision and that if he was instructed to ingest the KI; this action was to be documented on his exposure record documentation. The probability for authorization of the use of KI for milk sampling team members is almost nil because the sampling would not occur until after the plume had dispersed.

The ability to obtain a milk sample was adequately demonstrated. In accordance with the pre-exercise agreement, a Washington State Department of Agriculture (WSDA) Food Safety Officer and a Washington Department of Health (DOH) field monitoring team member demonstrated this activity. The two individuals met in the WSDA Franklin County Field Office, which is co-located with the Franklin County EOC. The sampling location was a prearranged dairy in Franklin County. The WSDA officer was well acquainted with the location of the dairy operation and drove to the site without delay. On arrival, the DOH team member took ambient exposure rate measurements and

found the site to be about 30 uR/hr gross (simulated). The two individuals donned (simulated) gloves and booties for contamination control. The sampling team entered the dairy building where the milk storage tanks were housed. One 12, 000 gallon tank was being washed and the 8,000 gallon storage tank was approximately one third full. Logs posted on the wall indicated when the last time the tank had been emptied and the level indicator recording devise showed the volume and time milk was added to the tank. Milking was in progress and the dairy operator was extremely corporative by shutting down transfers into the storage tank while the milk sample was being taken. The Food Safety Officer assured that the tank was agitated for the times proscribed in the WSDA sampling procedure. The sample was taken by dipping via the top hatch in the tank. An alternate sampling method would have been via the drain valve on the bottom of the tank. The Food Safety Officer sterilized the dipper using a 100 ppm chlorine solution. A one-gallon cubitainer was filled three quarters full. The transfer of the sample in the dipper to the cubitainer would have been facilitated by having a power funnel large enough to avoid spilling the milk onto the outside of the cubitainer. It is suggested that a funnel be added to the supply list for milk sampling. When appropriate sized sample was in the cubitainer, a process that requires multiple dipping, it was sealed and placed in a large plastic bag that was sealed. Appropriate WSDA labeling was placed on the bag and DOH labeling was added to start the chain-of-custody process. In accordance with WSDA procedure, a multi-copy form was completed; one copy left in the dairy, and one copy returned to the WSDA Field Office by the Food Safety Officer. The sample in the plastic bag was placed in a cooler for transport to the appropriate laboratory. The feeding protocol was also noted on the form. The feeding protocol at the dairy being sampled involved the use of stored feed and covered water and there was no grazing. Based on an interview, this process was in use by all of the commercial dairies in the area. The stored feed was in sheds with roofs with one side of the shed open to the atmosphere.

On return to the vehicle, the booties and gloves were removed before entering the vehicle. All activities were conducted in accordance with plan and procedures.

b. **DEFICIENCY:** NONE

c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE

d. **NOT DEMONSTRATED:** NONE

e. **PRIOR ARCAS RESOLVED:** NONE

f. **PRIOR ARCAS UNRESOLVED:** NONE

1.4 Emergency Operations Facility (EOF) - Meteorological and Unified Dose Assessment Center (MUDAC) – These functions are located in the basement of Energy Northwest's Support Facility near the Columbia Generating Station.

a. **MET:** Criterion 1.a.1; 1.b.1; 1.c.1; 1.d.1; 1.e.1; 2.a.1; 2.b.1; 2.d.1; 3.a.1; 3.b.1; 3.e.1; and 4.a.2. Prior ARCAs cleared: 69-98-05-A-02 in this exercise, and 69-00-26-A-06 and 69-00-26-A-07 in the March 2001 "Out of Sequence" Drill.
One new issue: 69-02-2.e.1-A-03.

Washington State

During normal working hours the WADOH, DRP, Nuclear Safety Section (NSS) located in Olympia, Washington, is notified by CGS of an event that results in the declaration of an emergency classification level via the "Hot Line." They in-turn notify the CGS DOH Program Manager who initiates a call-down of essential personnel. During non-working hours, the answering service pages the Emergency Response Duty Officer (ERDO) who notifies the DOH, DRP, NSS Nuclear Engineer who initiates a call-down of essential personnel by pager, cell phone, or landline telephone.

In accordance with the Extent-of-Play Agreement, DOH staff identified to participate at the CGS EOF and the MUDAC was pre-positioned at the Red Lion Hotel located in Richland, Washington.

A CGS pager notified the DOH CGS Program Manager at 0810, and the return telephone call informed her that a declaration of an ALERT was declared by CGS. The DOH CGS Program Manager and the pre-positioned personal assigned to the EOF/MUDAC departed the hotel at 0823 and stopped at the Richland Fire Department Station No.1 to obtain dosimetry packets. Prior to departing the fire station, one staff member telephoned CGS to obtain updated information relating to plant status. They departed the fire station at 0845 and arrived at the EOF at 0916. The MUDAC was operational at 0920.

The MUDAC was co-located with the EOF in a very large room in the CGS training center building. There was adequate space, ventilation, restrooms, furnishing, lighting, backup power, and an alternate facility, if needed, to support emergency response operations.

The facility had a diesel generator in the event of commercial power loss. The generator produces sufficient power to fully support the EOF, ventilation system, lighting, and circuits for computer systems. The ventilation system was self-contained and could be isolated to the EOF in the event of an incident.

In the event of a loss of habitability in the EOF or outside contamination that would jeopardize staff coming to work, the response operations would be relocated to the alternate EOF facility located at 3000 George Washington Way in Richland, Washington.

The communication systems available consisted of the CRASH telephone system as primary, commercial dial-up telephone as secondary, and radio as another backup with limited range of approximately 50 miles. The commercial telephone system uses multiple vendors so that the likelihood of a total telephone failure is reduced. Facsimile machines were also available.

The CRASH telephone system is a dedicated ring-down system connected to all risk States (Washington EOC and Oregon ECC) and Counties (Benton and Franklin EOCs). The CRASH system is

used primarily to notify them of ECL changes and PARs. The commercial dialup system is used primarily by the responder organizations to communicate with their organizations offsite.

The Field Monitoring Teams utilize radio and cellular telephone. Radio is normally the primary method of communication for the State of Washington field teams. However, since the Utility, DOE, and the State of Washington all had field teams playing in this exercise, the State teams primarily used cellular telephones. There were no failures or delays in communications.

There was sufficient equipment, maps, displays and other supplies to support emergency operations at the EOF/MUDAC. Administrative support equipment available included three facsimile machines, one copy machine, overhead projector, computer printers, and ancillary office supplies. Computer systems were available to the dose assessment staff.

Maps visible to the responders included 10-mile EPZ maps depicting field monitoring points, 50-mile ingestion pathway map, and site maps. Display boards available included a sign-in board, Columbia Generating Station Status Board, and meteorological data and plume data board.

The display boards that were available were effectively utilized and updated promptly. However, there was no board on which to post PARs or PADs. They also did not post the plume from field data on a 10-mile EPZ map that was available. It would be advantageous to have these available for the response staff.

An ambulance bay was set up as an access point to the facility and all other doors were secured. Equipment was available at the entrance to monitor emergency response personnel. In the event responders arrived with contamination, a decontamination shower and disposable clothing were available.

On exercise Day 1, the EOF Manager adequately demonstrated the Direction and Control function. He was well informed on the status of the response operations and knowledgeable of potential consequences and/or impact of the event.

The EOF Manager kept the response staff updated on a regular basis. A briefing was conducted at 30-minute intervals. The EOF Manager briefed the responders on the status of the event and requested that they report on the status of their specific actions. The DOH Liaison was the lead individual for the State of Washington. All responders had access to plans and procedures and referred to them as needed.

The responders were reminded of established priorities and their responsibilities in meeting these goals. If there were any disconnects or questions, they were addressed. Offsite response organizations (OROs) were updated utilizing the CRASH telephone system. All risk OROs (State of Washington EOC, State of Oregon ECC, Benton and Franklin County EOCs) were on line in conference mode for frequent updates or PARs.

At the end of the emergency phase of the exercise, control of the recovery phase of the event at the EOF was transferred to the DOH Liaison. The transfer of control was accomplished according to pre-established criteria.

On exercise Day 2, the DOH Health Liaison demonstrated the direction and control function. She had regular briefings to keep the staff updated on the status of the post-plume ingestion response.

During the briefing periods each response organization was given an opportunity to report on their specific response efforts and issues were addressed.

Washington State Field Monitoring Team members had a limit of 5 rem Total Effective Dose Equivalent (TEDE). A "Turn-Around Value" was used to limit exposure. If reached, the field team members must leave the area and have their TEDE evaluated or request a dose limit extension through the Field Team Coordinator from the DOH Health Officer prior to resuming their duties.

To ensure that the 5-rem TEDE limit is not exceeded and as data became available, the MUDAC promptly determined revised "Turn-Around Values." The "Turn-Around Value" correction factor is the ratio of external gamma exposure (DRD reading) to the whole body exposure (TEDE), which includes both deep dose and internal committed dose. The Field Team Coordinator provided revised "Turn-Around Values" to the field teams. During the exercise, as revised DRD read "Turn-Around Values" were developed, the Field Team Coordinator immediately relayed the new values to the field teams.

The DOH Health Officer may authorize ingestion of Potassium Iodide (KI) by field team members if the projected dose to the thyroid is 5 rem (or 250 mRem/hour) or a radioiodine concentration of 1.4 E-07 microcuries/cc is measured in air. The Field Team Captain may also authorize KI for the field team at his discretion.

The MUDAC responsibilities included the development of dose projections and command and control of the Field Monitoring Teams. The two MUDAC dose assessors, one from DOH and one from CGS, functioned as an integrated team. They frequently discussed ramifications of evolving CGS conditions, detailed reactor status, and appropriate methodology. One dose assessor would input the data into a computer, the other would check the input, and both would verify and sign the computer printouts of the dose assessments.

Both dose assessors employed two computer codes to calculate offsite dose projections, Quick Emergency Dose Projection System (QEDPS) and Emergency Dose Projection System (EDPS). Both computers were capable of executing either program or each served as a backup for the other. The computer codes each projected TEDE and Committed Dose Equivalent (CDE) to the thyroid doses as a function of distance. These estimates were directly comparable to the U.S. Environmental Protection Agency "Emergency PA Guides" for the evacuation of members of the general public.

Initial dose projections were based on CGS release rates. As field monitoring and air sampling data became available, these data were the basis of the dose projections.

Early phase PARs were developed and coordinated jointly by State, CGS, and County representatives in the EOF and approved by CGS's EOF Manager for transmittal to State and County EOCs. This transmittal was by facsimile and a dedicated conference telephone system (CRASH) that permitted discussion and additional coordination.

The initial offsite PARs developed at the declaration of a Site Area Emergency at 0935 were based on plant conditions and recommended evacuation of:

- Columbia River
- Horn Rapids Recreation Area and ORC Park
- Ringold Fishing Area

- Wahluke Hunting Area
- Schools in EPZ

The second set of PARs that were developed at the declaration of a GE ECL at 0951 were based on plant conditions and recommended:

- Evacuation of all Sections from 0 to 2 miles and Section 2 from 2 to 10 miles
- Shelter Sections 1, 3, and 4

As meteorological data, CGS release rates, and field monitoring data became available, the MUDAC dose assessors calculated TEDE and CDE thyroid dose projections based on the most recent information.

A release to the environment began at 1101. However, dose projections based on the release rates did not warrant a change in the existing PARs.

At 1205, based on the release to the environment and a change in wind direction and speed, the existing PARs were modified with the addition of the recommendation to evacuate Section 3. In addition, dose projections met the State criteria for administering KI for Emergency Workers and special populations within the affected Sections.

Based on the field monitoring data provided by the State, CGS, and U.S. DOE Field Monitoring Teams, the MUDAC staff was able to define the edges of the plume and the plume centerline. Although this information was not plotted on a map or displayed in the MUDAC area, the staff was aware of the evolving offsite situation and the lack of display did not create any confusion.
The MUDAC Dose Assessment Coordinator worked closely with the dose assessors and the Washington State Field Team Coordinator to provide the dose assessors with the required field monitoring data. Using field-monitoring data, the 500 uR/hr and 20 uR/hr isopleths were developed. Based on these two isopleths, a 0.4 uR/hr isopleth was constructed. This 0.4 uR/hr isopleth forms the initial boundary recommendation for the Food Control Area. Because of changes in wind direction that occurred during the release, the methodology used significantly over-estimated the size of 0.4 uR/hr isopleth and, consequently, the size of the Food Control Area Recommendation. For this reason, the MUDAC controller injected the scenario 0.4 uR/hr isopleth into play to replace the isopleth created by the exercise participants.

When laboratory radioanalysis results of representative food and crop samples became available, a refined Food Control Area Recommendation was developed based on these data. This Food Control Area defines an area such that no food whose origin is outside of the Food Control Area will contain radioactive contaminants in excess of the Derived Intervention Levels identified in the WADOH RDP Emergency Response Plan, Revision 4, Appendix A, page A-17.

Based on the field data, the 500 uR/hr isopleth forms the initial Relocation Area Boundary Recommendation.

The boundary of the refined Relocation Area was based upon the isotopic analysis of representative soil samples. Based on these data, the Relocation Area Boundary Recommendation was developed such that no individual in the public would receive doses in excess of those identified in the State of Washington, Department of Health, Division of Radiation Protection, Emergency Response Plan Revision 4, Appendix A, page A-16. The dose levels identified in this plan are, "2.0 rem first year, or

0.5 rem second year, or 5.0 rem (for 50 years)." The computer program (spread sheet) used to identify the refined Relocation Area Boundary Recommendation only considers the first year dose projections. It does not consider dose projections for the second year or for 50 years as identified in the plan.

When the DOH personnel assigned duties in the EOF/MUDAC picked up their personal dosimeter at the Richland Fire Station, each individual was issued an "Emergency Worker Kit." Each Kit contained a thermoluminescent dosimeter (TLD), a DCA model 622 (0 to 20 R) direct reading dosimeter, a "blister pack" containing fourteen 130 mg. KI tablets, instructions for taking KI, Emergency Worker Kit instructions, and an Emergency Worker Exposure Form.

An operating DRD charger was available for zeroing the DRDs. Personal identification information and the serial numbers of the TLD and the DRD were entered on the Emergency Worker Exposure Form to identify the dosimetry user and assign a total dose at the end of the mission. The above actions will close out ARCA 69-98-05-A-02. Personnel were aware of the 'Turn-Around Value" and where to turn in their dosimeter at the end of the mission.

A Ludlum Model 3 survey instrument with a Ludlum Model 44-6 GM probe, with an open/closed beta window, was used for monitoring ambient radiation levels while en route to the EOF. The instrument was calibrated on March 27, 2002, and due for calibration on March 27, 2003.

The blister pack of KI also contained indications if an individual was prone to have a possible reaction to the KI, directions for use, dosage, warning description, who should take KI, how and when to take KI, side effects, and what to do if side effects occur.

The authorization to take KI was not given by the State Health Officer to the DOH personnel assigned duties in the EOF/MUDAC. Based on field measurements, the Field Team Coordinator notified the Field Teams to take KI at 1216 and verified with the Team Captains that KI had been taken.

In accordance with the Extent-of-Play Agreement for exercise activities, the NRC, as the Lead Federal Agency, established the Advisory Team for the Environment, Food, and Health (A-Team). The A-Team was composed of representatives from the Center for Disease Control and the U.S. Environmental Protection Agency. In addition, the U.S. Department of Energy (DOE) hypothetically established the Federal Radiological Monitoring and Assessment Center (FRMAC). Detailed discussions between the State of Washington's Dose Assessment Coordinator, the A-Team, and the NRC Protective Measurers Coordinator focused on the evolving offsite situation and revising the Food Control Area Boundary Recommendation.

The DOE radiological monitoring aircraft hypothetically performed a series of flights to determine the extent of radiological contamination deposited on the ground downwind of CGS. This survey was conducted beginning just upwind of the release and proceeding downwind to the limit of detectability (50uR/hr). As a result of aircraft deposition mapping, monitoring and sampling by Field Monitoring Teams, and subsequent laboratory analyses, recommendations for the initial and refined boundaries of the Food Control Area were developed.

The WADA Liaison located in the MUDAC had a laptop computer that contained files identifying all agri-business conducted in the State. These files contained each agri-business and its type of activity, location, point-of-contact, and telephone numbers. In addition, the Liaison exhibited a thorough knowledge of the status of crops, harvest schedules, and land uses in the area surrounding CGS.

The DOH Field Team Coordinator (FTC) located in the MUDAC controlled the movement of the DOH field teams and determined the locations for field monitoring and sampling location for environmental and crop samples. Wind speed and direction are used to determine appropriate sampling locations. The DOH field teams did not have responsibility for obtaining maximum radiation readings in the plume.

On Day 1, the FTC directed the activities of the State field teams. He directed the field teams to determine plume characteristics, ambient radiation levels, and plume boundaries. He kept the field teams informed of changing plant conditions, emergency classification levels, meteorology, and other conditions and information which could effect the monitoring effort.

Working with the Department of Energy and the CGS FTCs, he selected appropriate sampling sites. Due to the excessive radio traffic he elected to communicate with the field teams by landline and cellular telephone. The FTC kept track of the field teams accumulated Deep Dose Equivalent as read on the direct reading dosimeters, and ensured that the field teams were advised of changes in "Turn-Around Values."

On Day 2, in addition to directing the radiological monitoring and environmental sampling efforts, the FTC contacted State and contract laboratories, requested mobile labs be sent to the immediate vicinity, and arranged for both air and land transport of samples to laboratories for analyses.

The FTC prepared a sampling priority list that included milk and crops that were currently being harvested. Together with the WADA representative located in the MUDAC, she prepared a priority-sampling plan to verify the Food Control Boundaries, unaffected areas, and monitor other areas of concern.

Oregon State

The Oregon State Liaison and the Oregon State Dose Assessment Liaison obtained Emergency Worker Kits containing their personal dosimetry from the Richland Fire Station Number 1 prior to departure to the CGS EOF. Each Kit contained a thermoluminescent dosimeter (TLD), a DCA model 622 (0 to 20R) direct reading dosimeter, a "blister pack" containing fourteen 130 mg tablets. Instructions were provided for taking Potassium Iodide (KI) tablets, using the Emergency Worker Kit and the Emergency Worker Exposure Form.

An operating DRD charger was available for zeroing the DRD's. Personal identification information and the serial numbers of the TLD and the DRD were entered on the Emergency Worker Exposure Form to identify the dosimetry user and to assign a total dose at the end of the mission. The above actions will close ARCA 69-98-05-A-2. Personnel were aware of the "Turn-Around Value" and where to turn in their dosimetry at the end of the mission. Prior to leaving the Fire Station they contacted the EOF to determine the status of the event.

The Oregon State Liaison functioned in the EOF and the Assessment Liaison performed duties within the MUDAC and coordinated activities with the State of Washington Dose Assessment Team operating in the MUDAC.

The MUDAC had the responsibility for performing dose assessments, command and control of the field monitoring teams, and the development of recommendations for boundaries for the Relocation

and Food Control Areas. The Assessment Liaison maintained cognizance of the activities taking place in the MUDAC including dose projections. He interpreted and relayed the dose projections, monitoring and laboratory results, and the recommendations for the initial and refined boundaries for the Food Control and Relocation Areas to the Oregon State Liaison located in the EOF and Oregon's ECC.

b. **DEFICIENCY:** NONE

c. **AREAS REQUIRING CORRECTIVE ACTION:**

Issue No. 69-02-2.e.1-A-03

Condition: Based on the isotopic analysis of representative soil samples, the Relocation Area Boundary Recommendation was developed such that no individual in the public would receive doses in excess of those identified in the WADOH, DRP, Emergency Response Plan Revision 4, Appendix A, page A-16. The dose levels identified in this plan are, "2.0 rem first year, or 0.5 rem second year, or 5.0 rem (for 50 years)." The computer program (spread sheet) used to identify the refined Relocation Area Boundary Recommendation only considers the first year dose projections. It does not consider dose projections for the second year or for 50 years as identified in the plan.

Possible Cause: The spreadsheet does not consider the second year or 50-year dose projections.

Reference: NUREG-0654 - I.10, M.1.

Effect: Use of the current spreadsheet could result in identifying a Relocation Area Boundary Recommendation that is to small and this could result in individuals in the public receiving doses greater than those specified in the plan.

Recommendation: Modify the current spreadsheet to consider doses for the second year and for 50 years. This issue is a performance issue because the participants failed to implement the plan. In Issue #69-02-2.e.1-A-03 the Condition statement cites a reference that indicates that the State of Washington has chosen all three criteria; i.e.,. first, second and fifty year doses as PAGs. In addition to the reference cited in the Condition statement, page A-8 of Appendix A, Section III intermediate Phase Guidelines, states "Because possible source terms from facilities in Washington can include long-lived radionuclides that can be re-suspended and inhaled, Washington uses all three criteria as PAGs." The Manual Of Protective Action Guides And Protective Actions For Nuclear Incidents, EPA 400-R-02-001, states that the Relocation PAG is 2 rem in the first year; however, footnote "a" to the Table 4-1 states, in part, that "These PAGs may not provide adequate protection from some long-lived radionuclides (see Section 4.2.1)." Section 4.2.1 defines the second and fifty year dose limits as long term objectives and goes on to say that if it is impractical to meet the long term objectives, consider relocation at a lower projected first year dose than that specified by the relocation PAG. The use of the three dose levels is therefore in accordance with EPA guidelines and is acceptable for power plant accidents that can potentially release significant quantities of Cs-137 and other long-lived nuclides as well as other nuclear incidents. It should be noted that the data in the scenario for the exercise indicated that the 50-year dose was the controlling dose had

it been calculated in accordance with the provisions of the plan that was current at the time of the exercise.

Schedule of Corrective Actions: Washington State officials dispute this issue and provided no schedule of corrective actions. Since it has been determined that the issue is appropriately classified as an ARCA, the resolution is as recommended by FEMA and the scheduled date for demonstration of the corrective action is at the next biennial exercise for the Columbia Generating Station.

d. NOT DEMONSTRATED: NONE

e. PRIOR ARCAs - RESOLVED

Issue No. 69-98-05-A-02.

Description: Some EOF staff did not follow dosimetry procedures.

Corrective Action Demonstrated: An operating DRD charger was available for zeroing the DRDs. Personal identification information and the serial numbers of the TLD and the DRD were entered on the "Emergency Worker Exposure Form" to identify the dosimetry user and assign a total dose at the end of the mission. Personnel were aware of the "Turn-Around Value" and where to turn in their dosimeter at the end of the mission.

f. PRIOR ARCAs – UNRESOLVED: NONE

1.5 Radiological Field Monitoring Teams

Field Monitoring Team No. 1.

a. MET: Criterion 1.a.1; 1.d.1; 3.a.1; 3.b.1; 4.a.1; 4.a.3; and 4.b.1. No new issues.

The capability to use effective procedures to alert, notify, mobilize emergency personnel, and activate facilities in a timely manner was demonstrated by members of the WADOH Field Monitoring Team No. 1. Team members were pre-positioned at the Red Lion Inn, Richland, Washington, and were notified of an ALERT ECL by telephone by the CGS at 0809. Team members then assembled at the Franklin County EOC, where they prepared for deployment to the field. The roster of qualified field team staff specified in the Extent-of-Play Agreement for this criterion was not available to the evaluator, and the Team Captain was not aware of any such requirement.

The Field Team Controller (FTC) in the MUDAC communicated ECL changes to the Team Captain.

In addition to notification of ALERT status at 0809 mentioned above, the team received notification of an SAE at 0940, GE at 0952, and the commencement of a radiological release from the plant at 1103.

The capability to provide at least two communications systems, one of which operates properly to provide communications links with appropriate locations and to manage communications in support of emergency operations was demonstrated by members of WADOH Field Monitoring Team No. 1.

Primary communication with the MUDAC was provided by cellular telephone. Backup communication was by an installed two-way radio in the team's vehicle. The team used both primary and backup systems during the exercise and no equipment failures occurred.

The capability to manage radiological exposure to Emergency Workers in accordance with plans and procedures was demonstrated by members of the WADOH Field Monitoring Team No. 1. Team members were each issued two direct-reading dosimeters (one of range 0-200 mR and one of range 0-20 R). Dosimeters were zeroed by utilizing a Dosimeter Corporation of America, Model 909, dosimeter charger, and the procedure-specified exposure tracking record forms were prepared. The dosimeters had been calibrated on May 22, 2002. Each team member was also issued a thermoluminescent dosimeter (TLD) for which the proper records were prepared. Dosimeters were read periodically, and the results were entered on the exposure tracking record forms for each individual.

Team members were cognizant of their administrative exposure limits. They were also aware of the default turn-back value of 2.5 R. Also, this value could be modified by the MUDAC when it had sufficient data to characterize the radiological release. The turn-back value was indeed modified twice during the exercise; once from 2.5 R to 500 mR and again to 400 mR, and the FTC in the MUDAC communicated changes to the field teams.

The Team Captain gave a pre-deployment briefing to the team members. It covered (a) meteorological conditions, (b) plant status, (c) direct-reading dosimeter requirements, (d) exposure limits, (e) turn-back values, (f) use of potassium iodide (KI) if it became necessary to ingest it, and protective clothing requirements.

The ability to implement the decision to take KI, provide instructions for its proper use, provide record keeping for the administration of KI to Emergency Workers was demonstrated by members of the WADOH Field Monitoring Team No. 1.

Ten bottles of KI tablets (14 tablets/bottle) were included in Kit 1, which was taken to the field by the team. Written instructions for the use of KI were given to each of the team members. These instructions included (a) reason for taking KI, (b) dosages and time-period within which KI should be taken, and (c) possible side effects. The Team Captain in his pre-deployment briefing of the team members covered the possible use of KI.

The FTC notified the team at approximately 1216 of a decision by the State Health Officer that Emergency Workers should take KI. At approximately 1220 all team members had simulated taking KI. Team members were aware that, in Washington, Emergency Workers may choose not to take KI, and, additionally, the Team Captain has authority to recommend his team members ingest KI even before the State Health Officer authorizes such action. Ingestion of KI by team members was noted in the log of the team's activities.

Team members demonstrated the availability and operability of instruments and equipment used to perform field measurements of direct radiation exposure, and to sample airborne radioiodine and particulates. The team was dispatched from the staging area at the Franklin County EOC in Pasco, Washington, and performed a complete pre-deployment inventory check of the five Kits to be taken

to the field: Kit 1 contained documentation equipment; Kit 2 was comprised of the necessary radiation monitoring instruments, extra batteries, and check sources; Kit 3 was made up of the portable air sampler, particulate filters, silver zeolite and charcoal radioiodine sampling cartridges, and associated gear; Kit 4 contained an ample supply of anti-contamination clothing and equipment (gloves, coveralls, shoe covers, and masking tape), and Kit 5 held the Global Positioning Satellite (GPS) unit, its holder, external antenna, instruction booklet, computer connection cable, and DC conversion Kit, as well as extra batteries. All equipment was in place except a battery-operated calculator, but a replacement calculator was readily located.

The team began its pre-deployment activities at the EOC at approximately 0830 and was fully ready to be deployed to the field at 1003. The team performed operability checks on the radiation monitoring instruments. This included battery checks and instrument response checks utilizing templates to assure a reproducible geometry of the instruments with respect to the position of the check sources. Acceptable instrument response readings of the check sources were provided.

Six radiation survey instruments of five different types were checked for field monitoring use, and included: one Ludlum Model 19 Micro-R meter with sodium Iodide detector (last calibrated May 23, 2002); two Ludlum Model 12 Geiger-Mueller survey instruments with Model 44-9 pancake probes (last calibrated May 24, 2002); one Eberline Model RO-2 ion chamber survey instrument (last calibrated May 23, 2002); one Eberline Model PIC-6b pressurized ion chamber instrument (last calibrated May 22, 2002), and one Eberline Model ASP-1 alpha detection instrument (last calibrated May 22, 2002).

The capability to perform and appropriately record ambient radiation measurements and to collect and analyze radioiodine and particulate samples under field conditions was demonstrated by members of the WADOH.

The FTC at the MUDAC directed the team to sampling locations. To ensure a reliable sample, the team indicated that it would not normally sample in an area with an ambient radiation level of less than 100 micro-R/hour.

The FTC specified two sample locations. These were near the edges of the identified plume. The first sample was taken where the plume strength was about 1330 micro-R/hour and the reading at one-inch above the ground was approximately 10,000 counts/minute. Sampling rate was at 1.5 cubic feet/minute. The sampler ran for 7.5 minutes. Monitoring was performed near the beginning, midpoint, and end of the sampling period to determine if the plume radioactivity remained relatively unchanging during that time. Although ambient exposure rates did not exceed 2 mR/hour at the sampling location, open- and closed-window readings were taken at the sampling site.

The sample was taken to a low background area for counting, purged for 30 seconds, and the sample media (both the particulate filter and charcoal cartridge) were counted per procedures for radioactivity. Results were reported to the FTC immediately after they were obtained and recorded.

The second sample was taken on the opposite side of the plume. Although the team took measurements of plume radioactivity during traverse of the plume, results of those measurements (e.g., centerline radioactivity) were not reported to the FTC, nor did the FTC request them. Neither plume traverse nor centerline delineation is specifically required by current procedures; therefore, no violation of procedures occurred.

Collection of the second sample was in an area where the ambient radiation level was approximately 121 micro-R/hour. The results of this sample were background for both particulate and radioiodine and reported as such to the FTC. The team approached the plume with the micro-R meter on. Because the plume radioactivity never exceeded 2 mR/hour (during the time the team had contact with it), the RO-2 instrument was not used. This is in accordance with procedures. Sampling media for both sample locations were loaded into the sampling head in background areas to avoid the possibility of contamination of the sample media.

Contamination control to prevent contamination of the sample media was adequate, and adequate care was taken to reduce cross-contamination of equipment and spread of contamination to the interior of the transport vehicle. Shoe covers and gloves were appropriately used during sampling activities, and, during the first sample collection, the use of full anti-contamination clothing (coveralls) was simulated because ground-deposited contamination was just above the specified 10000 counts/minute level for use of full anti-contamination clothing. Samples were tagged and bagged in accordance with procedures. A chain-of-custody form was prepared, but transfer of samples to a transporting courier was not included in the pre-specified demonstration of this criterion.

The capability to make appropriate measurements and to collect appropriate samples to support adequate assessments by members of the WADOH Field Monitoring Team No. 1 demonstrated PA decision-making.

The FMT assembled at the Franklin County EOC at approximately 0745 on Day 2. The team performed an inventory check of sampling and monitoring equipment and a complete check of survey and monitoring instruments using sources and reproducible geometries provided by the use of templates. All instruments were found to be operating properly. The instruments were the same ones described for Day 1 activities in Criterion 4.a.1, and all had "last calibration" dates in May 2002. The team prepared its own DRDs, using a Dosimeter Corporation of America Model 909 dosimeter charger to zero them, and team members were equipped with one DRD of range 0-200 mR, one DRD of range 0-20 R, and one TLD. An exposure tracking record form was used to provide a record of dosimetry assigned to each individual team member. All issued DRDs had last calibration dates of May 22, 2002.

Team members were given a pre-deployment briefing at 0815 by the lead controller during which time the team objectives were noted; namely, to locate points on the 20 micro-R/hr and 500 micro-R/hr exposure rate isopleths at two separate locations, and then to obtain samples of water, soil, and foodstuffs at pre-specified locations. The team departed the EOC at approximately 0830.

Immediately after deployment the Team Captain was given an approximate location by the Controller to search for the first assigned point on the 20 micro-R/hr exposure rate isopleth. This point was not located until one hour later (at 0935), after the team had penetrated the plume footprint, beyond the 500 micro-R/hr isopleth, twice. The map provided for use by the Controller was grossly in error with regard to intersections of two streets with Highway 240. The only two usable map reference points for use by the Controller were intersections of Beardsley Road and Highway 240 and Horn Rapids Road and Highway 240. After an hour of searching it was concluded that neither of these Roads actually intersects Highway 240. The point where Horn Rapids Road formerly intersected Highway 240 was finally found, and that point was used to estimate the location of, first, the 500 micro-R/hr isopleth (because the team was beyond the 500 micro-R/hr isopleth when it finally determined its location) and then the 20 micro-R/hr isopleth on its way <u>out</u> of the plume footprint. The second set of

20 micro-R/hr and 500 micro-R/hr points were readily located. The map provided for this set of points was accurate.

The team was dispatched (by controller inject) to the Washington State University's Agricultural Research Station near Prosser, Washington. They were instructed to locate, by use of GPS instrumentation, pre-determined points for obtaining edible food crop samples at two locations, soil samples at those locations, and an open-water sample at a third location. These sampling locations were readily located.

The team monitored the ground surface upon arrival at the sampling locations. The controller had no information to inject with regard to ambient contamination levels; therefore, the Team Captain explained that he would expect contamination levels at this distance from the release point to be very low and for purposes of this demonstration he would require the team members to only wear gloves. In a real event, he explained further, monitoring would dictate the extent of protective clothing worn.

The first sample taken consisted of one kilogram of apples, taken directly from the tree. The second sample taken was of soil, approximately 15-20 feet from the apple tree, in an open area. Soil was taken from a 1-foot by 1-foot square area to a depth of one inch. The third sample was of open water approximately 150 yards from where the apple and soil samples were taken. The team used a cup, attached by tape to a wooden rod approximately five feet in length, to dip the water from the pond. A one-gallon, plastic Cubitainer was filled to one-half its volume. A second edible food crop sample (grapes) and a second soil sample were taken at a third location on the Agricultural Research Station.

Samples were carefully handled to assure sample integrity by bagging, sealing with tape, tagging with the prescribed information, and finally by using a second bag to contain the first bag and its tag. This method also assures that the tag is not separated from the sample. Procedures used were those provided in the team's documentation Kit and included recently updated Draft procedures for vegetation and soil, dated September 2002. Contamination control measures were very good. Team members monitored their hands and feet at appropriate points of the sampling processes. Sampling assignments were completed at approximately 1230.

b. **DEFICIENCY**: NONE

c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE

d. **NOT DEMONSTRATED**: NONE

e. **PRIOR ARCAs - RESOLVED**: NONE

f. **PRIOR ARCAs – UNRESOLVED**: NONE

Field Monitoring Team No. 2.

a. **MET**: Criterion 1.a.1; 1.d.1; 3.a.1; 3.b.1; 4.a.1; 4.a.3; and 4.b.1.

Washington's Field Monitoring Team (FMT) No. 2 consisted of three people plus a Controller, and myself as an Evaluator. A roster of the assigned personnel was provided.

The FMT was pre-positioned at the Red Lion Hotel in Richland, Washington. They were notified by their ORO at 0818, that the CGS reported an ALERT. They were advised to report to Franklin County EOC, gather the necessary equipment, and be available for assignments. This was done after the ORO verified the ALERT status with CGS.

The FMT has a very detailed checklist for equipment checkout and for the issuance of all personal dosimetry. This checklist was followed. All equipment to be used had attached calibration tags that were dated either February or March of 2002. There were two different calibration dates. The team arrived at Franklin County EOC at 0840, and was ready to be deployed within 68 minutes.

Field Monitoring Team No. 2 had both radio and cell phone communications. Although the radio worked fine while in line of site, it was not able to transmit with obstacles in the way. The team, as a result, used their cell phone, and this proved to be very adequate. The team was able to communicate with all players by cell phone, and, at times, by radio. The communications with the MUDAC were informative and very professional. The Team was told to prepare for possible deployment by their ORO at 0818.

Field Monitoring Team No. 2 demonstrated good knowledge of proper issue and use of personal dosimetry. All instruments were issued according to their team checklist. All instruments were properly checked before issue. The calibration of all units had been completed in either February or March of 2002 according to the calibration tags affixed to all units that required calibration. TLDs were also issued to each member. The recorder for this team had each team member read their dosimeters at least hourly. They also read them after completion of each assignment. According to each of the team members (all were separately questioned) they knew their turn-back values and on several occasions checked with the MUDAC to make sure that the value had not been changed. On one occasion on Day 1, the MUDAC informed them that their value was the same. This came when they were dispatched to take an air sample reading. Team members also knew their appropriate exposure limits. The dosimetry readings were relayed to the MUDAC at appropriate times.

Prior to being told to take KI, FMT No. 2 reviewed, as a group, the criteria for taking KI, which included noting any allergic reactions and other possible side effects. When the order to take KI was received from the MUDAC at 1221, the team simulated taking the KI. This fact was recorded in their log, and was then relayed to the FTC.

Field Monitoring Team No. 2 was dispatched from the Franklin County EOC. The Team used a very well developed checklist to make sure that all instrumentation was issued, in working order, as verified by a check source, and properly calibrated. This checklist also helped to ensure that all other supplies were packed in their vehicle. This included spare instruments. As a result, all items they needed in the field were present when needed. All instruments were checked using a check source supplied with each Kit.

At 1259 Field Team No. 2 was directed to Highway 240 and the Horn Rapids Road to take an air sample. At the site they entered an area that was simulated as reading 100 micro r/hr. This reading was taken by instrument. There was some discussion as to how to determine if this was a valid reading or from shine. The Controller assured them this was a valid reading as per his instructions. This sample was taken using a Charcoal filter and a paper filter rather than the silver Zeolite cartridge, as specified in the Extent-of-Play. Once the sample was taken, they moved to an area where only background was readable and purged their instruments, reloaded, and made ready for another sample.

This was in accordance with the Extent-of-Play. The transfer of the sample to the Washington State Patrol was simulated.

Field Team No. 2 also took a second sample at 1400 at a location on Harrington Road. Both of these samples were taken in accordance with all procedures. It should be noted that the Field Teams have developed a step-by-step procedure book for sampling. This worked very well for the air sampling.

Field Team No. 2 proceeded from the Franklin County EOC on Day 2 to take vegetation, soil and water samples. In addition, they also checked for the 20 micro r/hr and 500 micro r/hr readings in two separate locations. As per the Extent-of-Play, this was done without guidance from the MU-DAC.

The FTC gave the team their sampling locations. The site had previously been selected by the MU-DAC. The Team Captain was able to find the areas of concern with the help of the maps he had and with help from persons familiar with the area.

During the taking of all samples, the team monitor/recorder was careful to obtain frequent dosimeter checks on all team members.

All samples were taken in accordance with established and written procedures. These procedures were reviewed before the taking of samples. Care was taken to avoid any cross-contamination and personnel and equipment decontamination was performed according to plan.

b. **DEFICIENCY**: NONE

c. **AREAS REQUIRING CORRECTIVE ACTION**: NONE

d. **NOT DEMONSTRATED**: NONE

e. **PRIOR ARCAs - RESOLVED**: NONE

f. **PRIOR ARCAs – UNRESOLVED**: NONE

1.6 Joint Information Center (JIC) – This facility is located at 3000 George Washington Way, Richland, Washington.

a. **MET**: Criterion 1.a.1; 1.b.1; 1.c.1; 1.d.1; 1.e.1, and 5.b.1. No new issues.
Prior ARCAs cleared were 69-00-11-A-08, 69-00-A-09, and 69-00-13-A-10.

The Joint Information Center (JIC) for the Columbia Generating Station (CGS) is staffed by: Utility personnel, Offsite Response Organization (ORO) staff from the States of Washington and Oregon, representatives from Benton and Franklin Counties, and Liaisons from Washington State's Department of Health (DOH) and Department of Agriculture (WDOA).

Utility personnel were notified of an ALERT by pager and immediately reported to the JIC to begin implementing their procedures. There was no pre-staging of the utility personnel. ORO staff assigned to the JIC is notified by their organizations and are deployed to the JIC from those locations. Some of these people were pre-staged as defined in the Extent-of-Play Agreement. Sign-in boards

are positioned at the entrance to the JIC. Utility positions and the ORO positions are on separate displays and are easily identifiable.

All staff, both Utility and ORO reported to the JIC in a timely manner. Utility staff began signing in at 0812, the JIC Manager arrived at 0825, and the final Utility person signed in at 0842. ORO personnel arrived between 0843 and 0916. The Oregon PIO arrived at 1109.

Both Phone Teams were in place and phones activated by 0847. The role of TV monitor was assigned immediately. This role was maintained throughout the day. The ORO and Utility staff in the JIC provided current information to the teams through the Information Manager. This corrects previous ARCA No. 69-00-13-A-10 which is also described in Criterion 1.a.1, Mobilization.

The JIC Manager declared the JIC activated at 0855. The first briefing was held at 0855, and the first News Release issued at 0911, in accordance with plans and procedures. (Ref 13.12.19, 2.1.4)

The JIC is comprised of four separate small rooms, adequate but confined. The first room is the entry area, where two employees are assigned to provide support. This is the same location designated for signing in and maintaining office supplies. The second room is segmented into designated areas for two Phone Teams. One team responds to media inquiries, the other to public inquiries. The third room is the Distribution Center that is a high-use area and a key function of the JIC operation. The Distribution Center is charged with keeping track of multiple activities, including copying, FAXing and appropriate and timely distribution. The largest area of the JIC is the space assigned to the "war room." This room is a high activity area where coordination and planning takes place. This is also the space utilized to prepare for Press Conferences, to collaborate on News Releases, to host internal briefings and to resolve issues. There is a space afforded for support representatives from offsite agencies (County or State) against the outer walls and an inner circle of workstations assigned to the JIC Manager, two Assistant JIC Managers, and key representatives providing technical advice.

The Media Center is located outside the JIC in an auditorium located to the left of the Energy Northwest facility entrance. This Media Center will easily hold over a hundred attendees in the amphitheater-style seats. It is a good space to manage the media comfortably and to respond to their questions. At the front of the auditorium there is ample space to seat presenters at a table and a podium for the use of a moderator. Acoustics in the auditorium are good and the microphones appeared to be in good working order. The projection screen above the table of presenters was large and easily meets the requirement for a large room wall projection.

In the lobby area adjacent to the Media Center is an area designated as a workspace for the media. Tables are set up with computer and telephone connections and a receptionist is available to assist them.

The JIC Manager is in charge of the emergency response at the JIC. For the initial response to an incident at the CGS, it is a Utility employee that fills the Manager position.

Upon arrival to the JIC at 0825 the Manager immediately gathered information on the status of the situation. She monitored the arrival of her staff, ensured that the preparation of the initial News Release was in progress by the News Release Editor, and called the EOF to inform them that the JIC was activated at 0851. The first Press Release was issued at 0911 advising of an ALERT declaration at the CGS.

After declaring the JIC activated, the Manager held her first JIC briefing at 0855. She provided information on plant status, established clear expectations by reminding everyone of the JIC mission and explaining how the JIC would operate. She established parameters for staff briefings on the hour and half hour as necessary for information sharing. Everyone was encouraged to read his or her procedures and to use three-way communication in the JIC. This prompt and clear assumption to take charge of the JIC operation laid a solid foundation for accomplishing the JIC mission: to provide timely and accurate information to the media and public.

The Assistant JIC Manager, (one of two) acted as Moderator for Press Conferences and played a key leadership role in directing the scope of the information to be presented to the media. She facilitated a diverse, expert group of technical experts and PI Officers. A steady pace was kept and order was maintained during the organizational process and thus adhered to her established timeline.

The Media Coordinator also demonstrated direction and control between the media and the JIC between Press Conferences by keeping the media apprised of progress within the JIC regarding information updates and responses to questions not answered during Press Conferences.

Phone Team Supervisors and the Distribution Team Supervisor each provided direction and control to their teams, thus ensuring timely dissemination of accurate information to the public, the JIC staff and the States and Counties involved in the incident response.

Communications at the Joint Information Center are by dedicated CRASH phone, commercial telephone, FAX machine, and computer e-mail. The dedicated CRASH phone is used to communicate ECLs, PARs and other incident related information between the EOF, State of Washington, Benton and Franklin Counties and the JIC. Commercial telephone, FAX and e-mail are used for all other communication in the JIC, including the Public and Media Phone Teams. There were no system failures.

The JIC is located outside the 10-mile EPZ of the CGS and therefore required no use of dosimetry, KI, or monitoring equipment.

The JIC is equipped with telephones, copy machines, computers, printers, FAX machines, televisions, "closed circuit" monitors, status boards, maps and displays, internal public address system, audiovisual equipment and office supplies. There are a vast number of commercial telephones and lines. Each designated JIC position has its own telephone and line. The Public and Media Phone Teams each have their own number to receive calls from the public or the media and nine phones per team. Phones ring sequentially to the next in line when one is busy. Each ORO has their own phone in their designated area, have a computer, and share a network printer.

In the document distribution area, there is a large hi-speed copy machine, two incoming and two outgoing FAX machines, and sufficient paper and supplies to provide copies of all documents to all JIC personnel and the media. These FAX machines are used to receive News Releases and other information from the States and Counties, coordinating and developing information for dissemination to the public and the media. The outgoing FAX machines are used to send final News Releases to all OROs designated on a distribution list that is posted in the Distribution Room. Certain documents are designated to go to appropriate organizations and FAX groups are programmed into the machine so a document can be sent to an entire group, rather than individually. This procedure is intended to prevent a backlog of information and to ensure it is disseminated in a timely manner. Due to the ex-

tremely large quantities of News Releases and other information requiring dissemination and the type of machine, some delay occurred in sending this information out.

In the main JIC area there is a computer that is used to keep the status of current and significant events. This log is projected on a monitor in the room and in the Phone Team room to ensure everyone in the area is aware of the status of events. Initially this equipment was not operating and was replaced early on Day 1, causing no delay in the sharing of information.

Flip charts were used to display rumors received by the Phone Teams and the time they were received. When a resolution or clarification was reached, it was logged next to the rumor with the time resolved. This aided PIO staff in preparing for their Press Conferences.

There was a significant lack of maps at the JIC, both for use in the JIC itself and for use in the media center for press conferences. Absence of these maps caused a great deal of frustration to all JIC staff as well as to the media. Constantly requests were made for maps depicting evacuation areas, food control areas, footprints of the plume, Access Control Points (ACPs), Traffic Control Points (TCPs), and relocation and return areas. The JIC staff was resourceful and developed "rough" maps from the calendar and travel maps by making copies and drawing boundaries with markers. They also made overhead transparencies for use at media briefings and Press Conferences. This often caused delays and having to return to the press with these after Press Conferences to show areas discussed. These graphics and visuals should be readily available for use at Press Conferences and would then need only minor last-minute modifications based on current situations.

Audio-visual equipment is used in the Media Center where Press Conferences are held. This allows transmittal of the conferences into the JIC and Phone Team Room for staff viewing. If the staff notes questions from the media that the PIOs can't respond to they try to obtain that information and relay it to the PIOs while the conference is still in session. This is a wonderful tool and helps provide information quickly to the media and the public. Occasionally, however, it is difficult to hear everything that is being said by the speakers. A switch from hand-held microphones to lapel style would alleviate this problem.

The JIC's mission is to provide accurate emergency information and instruction to the public and the media in a timely manner. The Energy Northwest JIC/Media Center endeavored to fulfill this mission by conducting frequent Press Conferences, holding media briefings between Press Conferences and by issuing News Releases from Energy Northwest, Washington State, Benton County, Franklin County and the State of Oregon. Spokespersons from the aforementioned organizations were located at the JIC and participated in Press Conferences, briefings and the coordination and development of News Releases. Although not represented at the JIC, News Releases were also received from Walla Walla County.

The Public Phone Team and Media Phone Team are located in the JIC. Each team is comprised of five staff persons. One member spoke Spanish and was available to the Spanish-speaking public. There was another staff member monitoring two TVs and pre-set radio stations for news stories regarding the incident at CGS. There were two Phone Team Managers; one was located in the phone room, the other spent time in the JIC collecting current information to bring to the Phone Teams and provided back-up support. The communication and cooperation between team members on both Phone Teams was excellent. As rumors came in, the Phone Team Supervisor wrote the rumor on a flip chart and posted the time it came in. When the rumor was resolved, the Information Manager

came in from the JIC and wrote the resolution in a different color across from the rumor with the time received.

Periodically Phone Teams would hold team member briefings to solve a problem or to make all team members and the Phone Team Manager aware of a situation. Teams took care to identify any trends in rumor calls. Several were identified and addressed at Press Conferences. Both teams followed their plans and procedures. The Phone Team Manager frequently asked his staff if they were OK, and if they required a break. When a phone call was received that required a call back with follow-up information, the return call was timely. Everyone handled his or her phone calls in a pleasant and caring manner. Phone inquiries were received about evacuations, traffic jams caused from people evacuating, a release from the plant, plant status, and road conditions. The Public Phone Team responded to 146 phone calls, with trends identified about evacuation and radiation released from the plant.

While EAS messages are broadcast in Spanish, News Releases are not, nor are there Spanish translators provided at Press Conferences. As mentioned above, a Spanish-speaking Phone Team member is available at the JIC, if needed. News Releases issued by States and Counties contained information for the public about the incident at the CGS. Information in these releases included the current ECL precautionary and/or PA that should be taken by the public to ensure their health and safety.

These actions included sheltering, evacuation, agricultural advisories and the locations of Emergency Worker Assistance Centers (EWACs) where they should go to be monitored for radiation contamination. Releases included advise to residents to read their Hanford Public Information Calendars for specific information on how to shelter-in-place, what to take when they evacuate, how long to plan to be away (72 hrs), directions to EWACs, radio station call letters and telephone numbers to call for information and/or assistance.

When Benton County EOC made the decision to direct evacuees to the Housel Middle School in Prosser, WA, rather than Kiona-Benton City High School in Benton City, WA, previously designated, and identified in calendars, the News Release did not provide specific directions to the new EWAC. Benton County has directional signage developed for the EWACs and sufficient copies of the signs have been stored for use in marking the route to the existing EWAC at Kiona-Benton City High School, or to mark the route to a relocated EWAC, such as at Housel Middle School.

Five Press Conferences were conducted each day. Conferences were planned ahead of time in the JIC to ensure a unified message was delivered to the media and all pertinent information was provided accurately and in a timely manner. When the media posed questions that could not immediately be answered with complete and accurate information, they were assured that the information would be obtained as soon as possible and be provided to them. The Media Coordinator and appropriate State and/or County, Agriculture, and Public Health staff conducted these briefings so the required information could be obtained. The JIC staff was diligent in keeping the media provided with the most current information available. (This corrects ARCA 69-00-12-A-09.)

Following each press conference, participants gathered outside the JIC and discussed the good and bad points of the conference and what each could do to improve their delivery of the information to give the media and the public the best information available. The willingness of each person to give and accept this constructive criticism speaks to their professionalism and dedication to their jobs.

The media was provided a media Kit and all News Releases and Agriculture Advisories continuously throughout each day.

Coordination of News Releases is accomplished in the JIC through the use of a News Release Editor. Draft News Releases were provided for circulation in the JIC. Comments are returned, appropriate changes are made and included, (PAs, etc.) and then a final News Release produced and issued. This system ensures continuity of information among any of the News Releases issued. This is extremely important when several agencies are producing their own releases for distribution to the media. ARCA 69-00-11-A-08 is considered cleared.

On Day 2, management of the JIC was transferred to the State of Washington. The Washington PIO served as the Manager for the Ingestion (recovery) phase. JIC briefings were held on a regular basis and the direction and control in the JIC was maintained. A State representative assumed the role of the Press Conference Moderator. Direction and control continued throughout the Press Conferences conducted.

Turnover of JIC management on Day 2 from the Utility to the State of Washington was smooth, particularly since they had been working as a team since the beginning of the incident. Following the transition, the JIC Manager for the response remained to assist the new manager with the return and recovery phase.

b. **DEFICIENCY:** NONE

c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**

d. **NOT DEMONSTRATED:** NONE

e. **PRIOR ARCAs - RESOLVED:**

Issue No.: 69-00-11-A-08

Description: News Releases did not include Protective Actions for Transients.

Corrective Action Demonstrated: Draft News Releases were provided for circulation in the JIC. Comments were returned, appropriate changes were made; e.g., PAs, etc., and then a final News Release produced and issued. This system ensured continuity of information among News Releases issued.

Issue No.: 69-00-12-A-09

Description: Incorrect information provided at media briefing.

Corrective Action Demonstrated: Five Press Conferences were conducted each day. Conferences were planned ahead of time in the JIC to ensure a unified message was delivered to the media and all pertinent information was provided accurately and in a timely manner. When the media posed questions that could not immediately be answered with complete and accurate information, they were assured that the information would be obtained as soon as possible and be provided to them. The Media Coordinator and appropriate State and/or County, Agriculture, and Public

Health staff conducted these briefings so the required information could be obtained. The JIC staff was diligent in keeping the media provided with the most current information available.

Issue No.: 69-00-13-A-10

Description: Role of TV Monitor

Corrective Action Demonstrated: Both Phone Teams were in place and phones activated by 0847. The ORO and Utility staff in the JIC provided current information to the teams through the Information Manager. The role of TV monitor was assigned immediately. Additionally, a team member continuously monitored televisions and radio broadcasts throughout the event.

f. **PRIOR ARCAs – UNRESOLVED:** NONE

g. **NOT DEMONSTRATED: NONE**

2. RISK JURISDICTIONS (WASHINGTON STATE)

2.1 BENTON COUNTY

2.1.1 Emergency Operations Center – This facility is located at 651 Truman Avenue, Richland, Washington.

a. **MET:** Criterion 1.a.1; 1.b.1; 1.c.1; 1.d.1; 1.e.1; 2.b.2; 2.c.1; 2.d.1, 2.e.1; 3.a.1; 3.b.1; 3.c.1; 3.c.2; 3.d.1; 3.d.2; 3.e.1; 3.e.2; 3.f.1; 5.a.1; and 5.b.1
New Issue: 69-02-2.b.1-A-04.

The Benton County Emergency Operations (BCEOC) participated in a 2-day ingestion pathway exercise conducted on September 17 and 18, 2002. The EOC was evaluated using FEMA's new evaluation area methodology. Twenty sub elements of four Evaluation Areas were demonstrated. The Benton County EOC demonstrated its capability to provide an effective and efficient emergency response to a postulated radiological incident.

At 0813 a FAX was received from Energy Northwest at the Benton County SE-COMM Center notifying them of an ALERT ECL at the CGS. A call also received on the CRASH Phone at 0814 hours notifying then of an ALERT ECL at CGS. The SE-COMM staff immediately began to call/page respective Emergency Services Officials to report to the BCEOC. The calls began at 0819 and were completed at 0841. The following individuals were notified: Manager at 0819; Director at 0822, County Commissioner paged at 0821, Sheriff at 0827, Benton County Richland, Kennewick PD and West Richland Police Departments, Richland and Kennewick Fire, Benton County Fire Districts #1, #2, #4, 0821-0841; and the Washington State Patrol Yakima Dispatch, 0820. The EOC staff, and the SE-COMM operators, work at the BCEOC on a daily basis. The remainder of the staff arrived by 0840. The facility was declared operational at 0849. At 0850 the CRASH line was transferred to the BCEOC. Additional ECLs were received at the BCEOC via the CRASH phone as follows: SAE at 0935 and GE at 1003.

Sign in logs were used and updated throughout the drill. The message control center maintained a very good historical file of incoming and outgoing communications. Individual staff personnel maintained their own logs and initialed off actions completed on their Implementing Procedures.

There are five key positions identified in the plan (paragraph 5.7) requiring 24-hour staffing: Emergency Chair, EM Director, PIO, Fire Coordinator, Communications Coordinator, and one representative from local law enforcement agencies. Other positions requiring 24-hour continuous staffing are identified in paragraph 5.6. The BCEOC Staff Roster footnotes a sixth position, CAD Coordinator Fire (SE-COMM) required for activation and specifies that a Benton County Sheriff is required. The roster appears to conflict with the procedures.

The BCEOC is collocated with the County's 24-hour Warning Point and 911 Dispatch Center, known as the Southeast Communications (SE-COMM) Dispatch Center. The EOC is a dedicated facility maintained in a constant State of readiness.

A back-up electrical generator supplies power to both the EOC and SE-COMM. The generator is tested weekly. In addition to the generator there is an un-interrupted power supply system to carry the load and prevent power spikes during transition for municipal power to emergency power.
The EOC is spacious and well designed to support internal operations; and, it has the capability to expand to accommodate other response agencies (if required). Heating, ventilation and restrooms support extended operations. The layout diagrams in the RERP accurately depict the facility.

During Day 1 of the exercise a computer monitor was damaged. The support staff quickly and efficiently replaced the damaged equipment without disrupting operations.

Overall responsibility for Direction and Control of the Benton County EOC rests with the first County Commissioner notified of the incident. This individual is then designated the Emergency Chairman. Prior to designation of a County Commissioner as the Emergency Chairman, the Sheriff will act as the Emergency Chairman (Benton County Plan, overview, PG 2 of 4). A Captain from the Sheriff's Department served as the Emergency Chairman during this exercise.

Frequent staff briefings were held throughout the exercise following each CRASH call and whenever the Emergency Services Director felt it necessary to focus staff on an issue.

During the plume phase of the exercise, the Decision Group approved four Alert and Notification sequences: closure of recreation centers; evacuation of Sections of 1 and 2 and sheltering of Sections 3 and 4; evacuation of Sections 1, 2, and 3 and sheltering of Section 4; and Re-location of the Kiona-Benton EWAC to Prosser, Washington. The Decision Group approved four additional decisions affecting the public during the post-plume phase of the exercise. The decisions included agricultural advisories, initial return recommendations, relocation determinations, and establishment of food control boundaries.

The Emergency Chairman effectively coordinated the activities of the Decision Group. The Decision Group has the authority to commit local budget, capital resources, and personnel in support of response operations (Benton Co. RERP, Section 5.2.1, Pg 11 of 16).

The County EOC is responsible for making PAs with regard to people and property within the County outside the Hanford site boundaries. The State of Washington is responsible for PADs re-

garding the use of KI, return, relocation, and ingestion (Benton Co. Plan, overview, Pg 1 of 4). The responsibilities and duties of local governmental organizations are delineated in Chapter 38.52 Revised Code of Washington and Interlocal Agreement for Benton County Emergency Services and serve as the legal bases for these local government organizations to assume and execute their emergency management functions.

During an emergency, Benton County Emergency Services (BCES) provides command and control, warning, notification, communications, public information, accident assessment, emergency dispatch and radiological exposure control. The Manager of BCES is responsible for the maintenance of the RERP and EOC.

Communications equipment available at the BCEOC includes a commercial telephone at each station, numerous outside lines, a dedicated CRASH line connected to Energy Northwest, a satellite phone for use if the land-lines are disabled, Telephonic Communication for the Deaf (TDD) line available for communicating with the deaf and Amateur Radio Emergency System (ARES) personnel. The ARES personnel are equipped with UHF, VHF, HF, and 2, 3, 7, and 800 mhz radios. Also available to the BCEOC staff were FAX machines and e-mail. The TDD lines are located in the SE-COMM area and would be used to notify Special Populations.

The radios were tested in accordance with the Extent-of-Play and the ARES personnel noticed radio interference. They changed frequency and contacted the Franklin Co. EOC and the Washington State EOC and found the problem was corrected. Stationed at the EOC were Law Enforcement and Fire Department personnel that had hand-held radios to contact their staff in the field. The Computer Assisted Dispatcher in the EOC also had direct contact with fire, police and emergency personnel in the field so that individuals could be dispatched without interfering with the SE-COMM personnel.

The following displays were utilized at the BCEOC to include: ACP points and the times that they were staffed; resource summary; fire department locations; Energy Northwest Emergency Status Screen, televisions in each corner of the room for news information as needed, and two screens that were computer displays of information on the emergency status and maps of the local area. The wind direction map on a window in the rear of the room was utilized throughout the exercise and would be more convenient if moved to a space closer to the maps. KI inventories and dosimetry are evaluated by site inspections separate from the exercise.

During the plume phase, BCEOC received PARs from the Utility. The Utility representative kept Benton County informed as to the filtered/unfiltered nature of the release. Timely wind direction was supplied. PARs on the first day (September 17) were:

- Automatic with SAE: Close River, Recreation Areas, and Schools.
- Section Shelter/Evacuation using wind direction. Evacuate 2, Shelter 1, 3A, 3B, 3C, and 4. Modified by Franklin County to also evacuate Section 1.
- Wind shift, also evacuate Sections 3A, 3B, 3C.

During the ingestion phase, BCEOC received PARs on the second day (September 18) from the EOF MUDAC under State Control:

- 500 micro R/hour isopleth for identifying boundaries of Relocation Area (if any) and the boundaries of the Return Area.
- 0.4 micro R/hour isopleth for identifying the Food Control Area.

In the Benton County Fixed Nuclear Facility Emergency Response Plan dated May 10, 2002, Section 4.3 "Site Area Emergency" (Page 2 within Section 4) it says, "Monitoring, ingestion pathway control, and possible evacuation or sheltering of some of the public may be required." This implies that preparation of the Agricultural Advisory begins at SAE, utilizing the wind vector existing at that time. The Benton County EOC was notified of an SAE at 1017. The Agricultural Advisory was not issued until 1430.

A report of a State Patrolman at an Access Control Point having an increasing dosimeter reading was taken seriously. A field team was dispatched to the Trooper's location, and determined that the Trooper's dosimetry was not functioning properly (no reading found above background).

It was concluded that the PA recommendations and decisions were based upon the available data. However, the Agricultural Advisory was not timely.

In general the appropriate factors were considered. Excellent discussion/coordination was done both within the EOC and with other agencies and organizations.

The EAS messages are joint Benton County/Franklin County messages due to a common radio station. The initial evacuation message was coordinated to reflect Franklin County's decision to add a Section 1 evacuation to the Section 2 evacuation contained in the Utility PAR.

Factors relevant to the Agricultural Advisory and the use of KI were discussed. Specifically the effect of the wind shift was considered and discussed for the Agricultural Advisory. The Benton County decision makers kept current on the State's recommendation relative to KI. On the first day (September 17) they informed Emergency Workers at 1209 that KI was authorized. (No authorization for general public KI was received from the State DOH.) On the second day (September 18) end of shift information was disseminated to Emergency Workers to inform them as to which conditions warrant continued KI use, and which conditions indicate that KI use should stop.

There was good discussion of whether transportation of special populations will enhance safety. Due to a wind shift, the safety and perception of safety of the Kiona-Benton Assistance Center located in Benton City was discussed. That Assistance Center was relocated to Prosser when wind shift redirected the plume towards it, even though it is about 5 miles outside the EPZ. The relocation of the Assistance Center caused a further relocation of special population individuals and one group. There are no special population groups within the EPZ.

In the Benton County Fixed Nuclear Facility Emergency Response Plan dated May 10, 2002 Section 4.3 "Site Area Emergency" (Page 2 within Section 4) it says "Schools near the Emergency Planning Zone will be evacuated, closed or canceled as appropriate for the time of year and day." The public Hanford High & Middle Schools and a private Montessori School were evacuated per the Plan. The Hanford Schools evacuated to Chief Joseph High School (public). Transportation and the Red Cross coordinated assistance for the Montessori School as it evacuated to the Kiona-Benton Assistance Center in Benton City. (Assistance was also provided as that Center changed locations to Housel Middle School in Prosser.) The Kinder Care Day Care Center and Washington State University Tri-Cities campus were closed.

The MUDAC 0.4 micro R/hour isopleth received at 1250 on the second day (September 18) closely agreed with the Agricultural Advisory issued on the first day (September 17). Thus there was no

need for extra-ordinary measures to "correct" the Agricultural Advisory even though portions of the 0.4 micro R/hour isopleth extended beyond the Agricultural Advisory Area.

The MUDAC 0.4 micro R/hour isopleth was used as the basis for the Food Control Area. In the Benton County Fixed Nuclear Facility Emergency Response Plan dated May 10, 2002, Section 6.3.2 (Page 9 within Section 6) it says "Local Government representatives shall have the responsibility of identifying enforceable Geo-Political Boundaries and Food Control Points for the area identified by the Washington State Department of Health, Radiation Protection Division."

The boundaries identified by Benton County for the Food Control Area include substantial portions that "run across country" where no enforceable Geo-Political Boundary is identified. The Decision Group was cognizant of that requirement but elected to establish the boundaries of the Food Control Areas as depicted on maps sent to the State in order to significantly reduce the size of the Food Control Area required had they elected to use geo-political land marks.

The process used by Benton County appeared to begin with the selection of Food Control Points, and then connecting those points with the Food Control Area Boundary. It is perfectly permissible for Food Control Points to be located at convenient locations outside of the Food Control Boundary. Thus there was no need to run the Food Control Boundary northwest along 240 on the DOE reservation, just to have it touch the Food Control/Access Control Point at the intersection of 240 and 24.

As noted in the first paragraph, the 0.4 micro R/hour isopleth was received at Benton County at 1250. The identification of Food Control Area Boundaries that run across country (when the State of Washington was expecting Geo-Political Boundaries) led to extended discussion between the Benton County EOC and the State of Washington EOC. Approval of the Food Control Area Boundary was FAXed to the Benton County EOC at 1834.

At 1015 data was received on the second day (September 18) showing that the plume had not gone east to the Columbia River. Return to the Columbia River was accomplished. The decision to withdraw River picket boats and the units maintaining access control at Columbia River boat launch sites was made at approximately 1020 for immediate implementation. The re-opening of the river was publicly announced at Noon.

Return to Section 3C (which was entirely outside of the 500 micro R/hour isopleth) was delayed for several hours after the isopleth was received.

On the second day, the 500 micro R/hour isopleth was available at 1101. A proposed restricted area defined by "non-Geo-Political Boundaries" was sent to the State of WA EOC at 1243. The State did not approve the restricted area boundaries until 1507.

The emphasis on non-Geo-Political boundaries for the Restricted Area distracted Benton County representatives from comparing the 500 micro R/hour isopleth to the boundaries of the Evacuation Area. No relocation decision was required for Benton County. However, if the isopleth had gone outside of the evacuated areas, recognition of that condition could also have been delayed, with people remaining in a highly contaminated area. Re-entry is outside the Extent-of-Play for Benton County in this exercise.

Personnel assigned to the BCEOC are not issued Emergency Worker Exposure Control packets because it is located outside the EPZ. Supplies of exposure control packets are stored at the EOC for

distribution in the event of shortages. No shortages were noted during the exercise. The actual inventory, operational checks and verification of calibration/electrical leakage checks will be conducted out of sequence from the exercise during a staff assistance visit.

The BCEOC was diligent in advising deployed response personnel to read their dosimeters frequently and to report to the EOC the readings noted.

Immediately following CRASH call No. 6, at 1204 the BCES Director announced in the EOC that Emergency Workers deployed in the field are directed to ingest KI. At that time the Computer Assisted Dispatcher sent a radio message to Emergency Workers announcing the States decision and directing them to take the KI. These activities are consistent with Benton County's RERP. Supplies of KI and verification that the tablets are within their expiration date will be documented out of sequence of this exercise.

Benton County Emergency Management is responsible for assisting special needs populations effected by major emergencies or disasters. There are no special population facilities in the impacted area, however, there are currently 82 individuals residing at 62 residences within the plume EPZ that have been identified as requiring evacuation assistance.

Upon reporting to the EOC after ALERT notification, the Transportation Coordinator made an inventory of available transportation resources (Richland School District busses (50) and drivers (43)), and these were resources were sufficient and IAW the plan, which calls for continuous staffing and emergency transportation services from the Richland School District. As required by the plan, upon the declaration of Site Area Emergency at 0935, the Transportation Coordinator placed the drivers on stand-by and insured that adequate numbers of Emergency Worker Kits were available to all drivers. (Relayed telephonically to the bus dispatch center was the reminder that field drivers were to wear personal dosimetry, and that readings from their pencil dosimeters were required every 60 minutes. Drivers were to be relieved if their measured dose reached 2.5 R, and actions were taken to prevent drivers from receiving a dose measuring 5R.) Per the Extent-of-Play, all mobility-impaired citizens pre-identified as needing evacuation assistance were notified individually by telephone. Actual telephone calls were made. The process took approximately 4 hours to complete. Simulated arrangements were made to provide bus transportation for these individuals. No actual transportation was provided.

As part of the Extent-of-Play Agreement, the people contacted were asked if they would have needed assistance if this had been a real emergency (18 people in 9 homes, 3 with wheelchairs, requested transportation assistance). No transportation resource gaps were identified, and alternate resource providers were not required.

This Criterion was not part of the Extent-of-Play Agreement but was demonstrated in the context of the exercise. Two schools, which lay outside the EPZ, were evacuated and their students transferred to schools outside the impacted area. At 1015 transportation support was requested to move students from Hanford High School to Chief Jo. Busses were quickly identified and dispatched by the Transportation Coordinator at the EOC. At 1028 a similar request was made to transfer students from Children's Garden Montessori School to Kiona-Benton City High School EWAC. This request was also met in a timely manner.

Upon declaration of the SAE at 0935, law enforcement staff assigned to the EOC began mobilizing their resources to the pre-established ACPs. According to the Benton County Plan, TCP/ACPs are to

be established at SAE and GE. It was resolved in the Extent-of-Play that for this exercise all field activities were to be simulated and no personnel were actually dispatched to the Access Control Points (ACPs).

Pre-planning in BCEOC facilitates the placement of ACPs. Nineteen pre-designated ACP assignments are distributed geographically to the West Richland Police Department (WRPD), the Richland Police Department (RPD), the Benton County Sheriffs Office (BCSO), U.S. Coast Guard (USCG), and the Washington State Patrol (WSP). ACPs are also established on the Columbia River to prevent launching of watercraft. Once established, only emergency and designated personnel are allowed to enter the area (Department of Energy, Energy Northwest, WA State Dept of Health, State Dept of Energy, Oregon State Dept of Health, Benton or Franklin County Commissioners, Benton or Franklin County Emergency Management). Admission of others must be confirmed by the EOC.

The simulation was conducted in a timely manner with all ACPs established within 45 minutes (0950-1025). When the second PAD to evacuate Section 3 was made at 1204, access control personnel were moved appropriately.

As agreed to in the Extent-of-Play, no actual field demonstrations were conducted.

Two impediments to evacuation were simulated during the exercise. The first occurred at 1020 when a call was received informing the EOC of a truck wreck at the intersection of Harrington and Berto Roads (one of the evacuation routes). The accident resulted in complete blockage of the evacuation route due to spilt lumber and a diesel spill. The Fire Dispatch coordinator dispatched an EMS to the scene (simulated) at 1026, and Public Works was contacted in order to set up signs and clean up the site. West Richland Police patrols were on scene and traffic was rerouted during the time it took for Public Works and assigned grader and dump truck to clear the road. The scene was cleared at 1215. The second simulated impediment was an automobile injury/accent at Twin Bridges and Weedle road reported at 1223. Benton County Sheriffs Office and West Richland Police patrol cars were dispatched to the scene. A tow truck was called in to clear the road, and traffic flow was renewed at 1305.

All simulated contacts were accurately logged, resources were available, and actions taken in a timely manner.

The capability to implement PAs was adequately demonstrated during this exercise. During Day 2 of the exercise, the BCEOC provided extensive information to the Washington State decision makers regarding the restricted area, food advisory area, and food access points. The Operations Staff, including the Washington State Patrol, Richland, West Richland, Kennewick Police Departments, and the Benton County Sheriff's Department along with the Operations Coordinator had extensive discussions regarding the identification and staffing of traffic/access control points around the identified restricted area. This information was forwarded to the State decision makers at 1247 and their approval was received at 1317.

This same group worked with the Department of Agriculture and the State of Washington Liaisons to identify and staff access control points and food check points around the Agricultural Advisory area. This information was forwarded to the State decision makers at 1300. At 1400 there was a "bridge" conference call to discuss the agricultural advisory points. This call included the State decision makers. The State decision makers approved the food control points at 1604.

When the decision was made at the State to allow evacuees outside the restricted area to return home, Benton County PIO provided information to the JIC for a Press Release. The water advisory was to drink only bottled water or from a covered well. All other food advisories remained in effect.

The BCEOC is to be commended for the use of technology; i.e., e-mailing the maps with the point identified, creating maps for use within the EOC, and for the professional manner in which the various agencies worked together during this process. All was in accordance with the plan as the State has primary responsibility for all decisions and the County provides advice and consent.

The capability to provide pre-printed instructional material and assist with the implementation of PADs for the ingestion pathway was adequately demonstrated by the BCEOC. The BCEOC had the responsibility to distribute preprinted material to farmers, food processors, and food producers. A tri-fold brochure has been preprinted and stored in the County EOC. The Operations Coordinator for Benton County EOC was interviewed as to how this material would be distributed in a timely manner.

After the SAE, the Operations Coordinator had the Sheriff provide couriers who would take copies of the brochures to pre-identified agriculture related businesses in Benton County. In addition, the Fire Coordinator would provide runners to all fire stations (not districts) within Benton County. Theses runners would take copies of the tri-fold brochure to each fire station. The Operations Coordination indicated that it would be better to have the information distributed promptly to eliminate availability delay at distribution points.

There was continual coordination between Benton and Franklin Counties, Benton County and the Washington State EOC, the MUDAC, the EOF and the JIC. The County developed several strategies for access control points for preventing food to leave the Agricultural Advisory area. This information was provided via e-mail to all locations and to assist in the development of media information. All was in accordance with the plans and procedures.

According to both the State and Benton County Plans, the State has primary responsibility for relocation, return, reentry, and recovery. The County functions to provide advice and consent to the decisions. During Day 2 of the exercise, the County provided information regarding access control points for both the restricted area and the agricultural zone. Both of these Plans provided for points where individuals could reenter the area either to function as an Emergency Worker or to obtain personnel belongs or to take care of livestock. Information on entry points were provided to the State and to the JIC. The JIC provided this information to the media along with information on how to obtain permission to reenter the area.

There were approximately 250 homes with families that could not return to their residences. The evaluator was informed that they were the responsibility of the State.

At 1317 the State informed the media and BCEOC that those individuals who resided outside the restricted area could return home. There was minimal to no discussion within the EOC regarding the return or relocation of individuals. There was no discussion on the procedures and resources needed to restore services and facilities that had been dormant for two days. This was due in part to the delay in receiving information from the State decision-makers and in part due to minimal staffing on Day 2. The focus was mainly on the restricted area and setting up an agricultural zone rather than on the evacuees.

At 0952 hours the BCES Director and the Benton County Commissioner authorized the first Alert and Notification message. The message went out via EAS Message, Sirens and voice message from the BCEOC to evacuate the river and recreation areas. The sirens and voice message covers the river area and the EAS message covers the inland areas. The EAS message was completed in both English and Spanish in accordance with the plans. The voice message after the sirens was completed in English only as the Spanish translator had not reported to the BCEOC. The second EAS Message and Siren Activation was started at 1016 and completed at 1019, with a Spanish translator present. The third EAS Message and siren activation was started at 1210 and completed at 1223; the fourth EAS Message and siren activation was started at 1312 and completed at 1314.

The capability to provide accurate emergency information and instructions to the public in a timely manner was adequately demonstrated. There were a total of 3 subsequent EAS messages to the public. After the first message, the Spanish Translator had arrived in the BCEOC and for the next two messages that were read 'live' over the sirens and the one EAS message "on the fly" the translator provided a Spanish translation.

The second sequence of Alert and Notification had the river sirens being sounded after the EAS message had been sent over the radio station. After discussion with Franklin County and a thorough review of procedures the PIO determined that the sequence he had been using was reversed. The PIO reversed the process for the third EAS message. It is recommended that the PIO instructions (IP-X 4) be rewritten to clearly indicate the sequence. Also, it is noted that the PIO instructions are titled EAS and Sirens. This could have added to the confusion. It is recommend that the procedure be corrected titled either Alert and Notification or Sirens and EAS. Furthermore, it is recommended that the Spanish version of the river siren message be in the PIO procedures. At this time it is not included, and thus without a translator the Spanish portion of the message cannot be provided. Please note that the sirens have a Public Address system on them; therefore, any message must be read over it; and the EAS radio station signal activates the tone Alert radios located within the emergency-planning zone.

The Agriculture Advisory area sent by Benton County to the State contained inaccurate information. Item number 2 indicates that the boundary is "The area east of Highway 395 to Interstate 82 to the Oregon/Washington Boundary." However, the correct description should read, "the area west of..."

It is noted that the Benton County plan, Section 6.0, page 2 of 14 identifies six items to be included in an EAS message. Item number 4, a brief description of the type of emergency and the nature of the hazard, is only included in EAS message CGS SA-2. It is recommended that the plan be revised to reflect current FEMA guidance as set out in the Kay Goss memorandum of February 2, 1999, and the Federal Register Notice of September 12, 2002.

The additional emergency information that is provided to the radio station to read as the follow-on to the EAS message does not contain the following required elements: PA decisions; evacuation routes; and public information reference materials for additional information.

It is noted in the Benton County Plan, Section 6.0, page 2 of 14, that the additional information is provided to the radio station and that it is "expected that the broadcasters would play the additional information periodically as a public service."

The PIO prepared information for six Press Releases for the Joint Information Center. After message preparation, the PIO provided them to both the County Emergency Director and the Acting County

Commissioner for review and approval. It is noted that from the third Press Release forward, there is a reference to the Hanford Site Neighbor Calendar.

The PIO had three public inquiries (controller injects) that he adequately addressed. There were three messages that were issued regarding schools that were outside the EPZ. These had not been prepared by the PIO; but were Public Service Announcements. The PIO provided this information to the JIC. For distribution of ingestion pathway information distributed to pre-determined individuals and businesses, see 3.e.2. The PIO kept in contact with the JIC and coordinated with Franklin County prior to each EAS message and/or information being provided to the JIC.

b. DEFICIENCY: NONE

c. AREAS REQUIRING CORRECTIVE ACTION:

Issue: 69-02-2.b.1-A-04

Condition: Agricultural Advisory - The BCEOC was notified of SAE at 1017. The Agricultural Advisory was not issued until 1430, 4 hours and 13 minutes later. In the Benton County Fixed Nuclear Facility Emergency Response Plan dated May 10, 2002, Section 4.3 "Site Area Emergency" (Page 2 within Section 4) it says "Monitoring, ingestion pathway control, and possible evacuation or sheltering of some of the public may be required." This implies that preparation of the Agricultural Advisory begins at SAE, utilizing the wind vector existing at that time.

Possible Cause: The Agricultural Advisory was nearing completion when the wind shifted. When informed of a shift in wind, Benton County began redrawing the Agricultural Advisory Boundaries from scratch. Usable boundaries derived from the initial wind conditions were not used to advantage.

Reference: Appropriate PA recommendations are based on available information on plant conditions, field-monitoring data, and licensee and ORO dose projections, as well as knowledge of onsite and offsite environmental conditions. (NUREG-0654, I.8., 10., 11. and Supplement 3.)

Effect: Persons working in agriculture were left without the guidance of the Agricultural Advisory for more than 4 hours after SAE. Sheltering of livestock and use of protected water/feed sources could be delayed, possibly resulting in contaminated livestock. Also there is a potential for contaminated crops being harvested and marketed prior to the Agricultural Advisory being issued.

Recommendation: In cases of wind shift, extend the boundaries of the Agricultural Advisory to encompass the new plume path as well as the initial plume path. This permits much of the initial boundary work to be used. This would reduce the time needed to define the complete boundary. The "overly large" Agricultural Area would in effect be "shrunk" (based on test data) when the Food Control Area is defined.

Schedule of Corrective Actions: Removal of offending sentence from Section 4.3 of the Benton County Plan, by revising the Support Coordinator and Emergency Director

procedures, and by training staff. Benton County intends to demonstrate the correction of the ARCA during the next applicable exercise.

f. **PRIOR ARCAs – UNRESOLVED:** NONE

g. **NOT DEMONSTRATED: NONE**

2.1.2 Richland Fire Department – The Richland Fire Department is the principal ambulance transportation service for Kadlec Medical Center, Richland, Washington.

a. **MET:** Criterion 1.d.1; 3.a.1; and 6.d.1. No new issues.

The Richland Fire Department staff demonstrated on September 19, 2002, the capability of at least two communications systems, as well as established, maintained, and managed communications links with the appropriate locations. Two representatives of the Richland Fire Department demonstrated this during transport of a contaminated, injured (simulated) patient from a pre-arranged pick-up point to the Kadlec Medical Center.

The team members stated the primary communication between the ambulance and the Kadlec Medical Center is a dedicated radio link. Backup communication was provided by an additional two-way radio system and by cellular telephone.

The ambulance received the call for transport of the injured patient at 0859 from the Fire Department's dispatch center (SE-COMM).

The capability to provide dosimetry and procedures, and to manage radiological exposure to Emergency Workers, was demonstrated by two members of the Richland Fire Department. This was completed during transport of a simulated contaminated, injured patient from a pre-arranged pick-up location (Building 3000 freight receiving area) simulated to be at the CGS.

The team consisted of an Emergency Medical Technician (EMT) and a paramedic. Both team members checked their radiation emergency Kits before receiving the call from the Fire Department's dispatcher (SE-COMM). Five Kits were available, each of which contained the following: one 0-20R direct-reading dosimeter (leak-checked and placed in the Kits on April 26, 2002, by Benton County Emergency Management), 14 KI tablets (expiration date: August 2005) with instructions for use, and one thermoluminescent dosimeter. These Kits are checked for proper content and updated once per year by Benton County Emergency Management.

The team had in its possession a Ludlum Model 12 radiation survey instrument (last calibrated October 8, 2001), equipped with a Model 44-9 pancake probe. The team members checked the instrument for operability and proper response by use of a one-microcurie cesium-137 source, and a Bendix Model 906 dosimeter charger was available to zero their DRDs. Team members utilized an Emergency Worker Exposure Form to record personal data and to later record any accumulated radiation exposure. The patient's condition (vital signs and contamination condition) was communicated to the Kadlec Medical Center by use of the cellular telephone.

All communications, primary and backup, were tested and/or used, and no failures occurred.

The capability to provide adequate resources and trained personnel for monitoring, medical services, and transport for contaminated injured individuals was demonstrated by a Richland Fire Department team consisting of one EMT and one paramedic.

The initiating call for ambulance transport of a contaminated injured patient simulated to be at the CGS was received at the Richland Fire Station from the Fire Department's dispatcher (SE-COMM) at 0859. The acting patient was actually located at the Receiving Area of Building 3000 on Washington Way in Richland. The ambulance left the Fire Station at 0900 and proceeded to the pickup point, arriving there at 0910. Two radiation safety personnel accompanied the patient at the receiving area from Energy Northwest, operator of the CGS, who gave the transport team details regarding the type of simulated accident suffered by the patient. The patient had been wrapped in a light blanket to limit contamination transfer to contacted surfaces. To determine her awareness and response capabilities the paramedic interviewed the patient. The paramedic simulated measurement of the patient's vital signs: blood pressure, pulse rate, and respiration rate (provided by controller inject as 120/60, 110, and 25, respectively). The patient was judged to be in a non-life-threatening condition and responded well to questions by the paramedic although she had a simulated broken arm that had been treated and immobilized earlier by an Energy Northwest in-plant emergency response team. The paramedic then performed a thorough radiation survey of the patient by use of a Ludlum Model 12 survey meter equipped with a Ludlum Model 44-9 pancake probe, covered with a thin plastic glove to reduce the probability of instrument contamination. The survey confirmed contamination readings, furnished by Energy Northwest radiation safety technicians, of 1000 counts/minute on the arm and in several spots on the left side and back of the head. The team was also told that the contamination was not likely to become airborne.

The patient was transferred to the ambulance gurney and placed in the ambulance at 0919. The paramedic again checked vital signs; found they had not changed appreciably. Questions were asked of the patient to determine her age, if she was presently taking any medications, had any known drug reactions, whether she was currently in pain, etc., and then simulated administration of oxygen during the trip to the Medical Center.

The ambulance left the Building 3000 patient transfer area at 0925. The paramedic then contacted the Kadlec Medical Center by cellular telephone and related information regarding the patient's age, physical condition, vital signs, and contamination levels and gave an ETS at the Emergency Department of 5 to 10 minutes.

The ambulance arrived at the Emergency Department of the Kadlec Medical Center at 0935. Patient transfer to the treatment room was delayed approximately 16 minutes, while medical staff donned protective clothing.

At 0951, the patient was transferred from the ambulance gurney to a hospital gurney, at which time the paramedic gave a report of the patient's vital signs and contamination condition to attending hospital emergency staff.

The transfer area immediately outside the Emergency Department of the Kadlec Medical Center had been prepared by placing a plastic covering over the entire floor area. The outside transfer area had been roped off and signed as a radioactive control area. Security personnel were present to control entry to the area. After transfer of the patient into the Emergency Department, radiation safety technicians from the Washington State Department of Health and Energy Northwest checked the ambulance team for contamination by use of survey instruments equipped with Ludlum Model 44-9 pan-

cake probes. The plastic covering over the entire outside patient transfer area was checked by use of large-area masslin swipes, which were carefully monitored, by use of radiation survey instruments. The interior of the ambulance was monitored for contamination by use of masslin swipes and survey instruments. The ambulance gurney was thoroughly swiped and monitored for radioactive contamination. Calibration for survey instruments used by radiation safety technicians included one Eberline Model 1408 (April 1, 2002) and two Ludlum Model 2 instruments (December 3, 2001).

Neither the ambulance team nor the radiation safety technicians present were sure of where the ambulance would be decontaminated had it been significantly contaminated. All agreed, however, that if the vehicle's interior (or exterior) was significantly contaminated and decontamination efforts at the scene were unsuccessful, the vehicle would remain in place until appropriate authorities had rendered a decision.

b. **DEFICIENCY**: NONE

c. **AREAS REQUIRING CORRECTIVE ACTION**: NONE

d. **NOT DEMONSTRATED**: NONE

e. **PRIOR ARCAS - RESOLVED**: NONE

f. **PRIOR ARCAS – UNRESOLVED: NONE**

2.1.3 Kadlec Medical Center – This facility is located at 888 Swift Boulevard, Richland, Washington and demonstrated their criterion on September 19, 2002.

a. **MET:** Criterion 1.d.1, 3.a.1 and 6.d.1. Issue 69-02-6.d.1-A-05 was Re-demonstrated and Cleared.

The Kadlec Medical Center Emergency Department has the capability to communicate with ambulances by the HEAR (Hospital Emergency Ambulance Radio) and the MED COM (Medical Communications) radio nets and by landline to cellular telephone. During the exercise a radio net was used. All systems were fully functional and there were no communications equipment failures.

The Kadlec Medical Center staff assigned to work in the controlled area was issued a Thermoluminescent Dosimeter (TLD), to be worn in the chest area under the protective clothing. The name of the individual using the TLD and the serial number of the device was entered on a "TLD Dosimeter Record Form" for later assignment of total dose to the individual user. The staff was aware that the TLD and record form were to be turned into the Washington State Department of Health, Division of Radiation Protection representative at the end of the mission.

The Kadlec Medical Center's "Procedure for the Care of Radiation Accident Patients at Kadlec Medical Center, Richland, Washington" was immediately activated upon receipt of a message that an injured and contaminated patient would be transported to the Emergency Department. The appropriate staff was notified and set-up of the controlled area was initiated. The controlled area was set-up in a professional and effective manner. Dosimeters were assigned to all of the attending staff that then donned the appropriate protective clothing.

Upon arrival, the patient was transferred from the ambulance to the controlled area. The patient was monitored using a Beeline E140B survey meter with a pancake GM probe. The instrument was calibrated on March 27, 2002 and was checked for proper operation using a radioactive source of known value. The probe was covered with a rubber glove to prevent contamination.

With the completion of the patient medical assessment, decontamination using appropriate techniques was begun. Good contamination control was demonstrated, including frequent monitoring and changing of gloves, frequent monitoring of decontamination efforts and employment of techniques to prevent contamination of clean or decontaminated areas.

A complete survey of the patient was not made prior to exiting the controlled area as required by the "Procedure for the Care of Radiation Accident Patients at Kadlec Medical Center, Richland, Washington," page 10 of 24, Action Card No. 5, Task D. This action was successfully re-demonstrated. Also, the "step off area" from the controlled area to the clean area was not properly delineated when monitoring staff out of the controlled area. This activity was successfully re-demonstrated. The medical staff was aware that life saving care took precedence over decontamination. Energy Northwest personnel explained the actions to be taken to release the controlled area to unrestricted use and that all radioactive waste would be disposed of by their organization.

b. **DEFICIENCY:** NONE

c. **AREAS REQUIRING CORRECTIVE ACTION:**

Issue No. 69-02-6.d.1-A-05 – Re-demonstrated and Cleared.

Description: A complete survey of the patient was not made prior to exiting the controlled area as required by the "Procedure for the Care of Radiation Accident Patients at Kadlec Medical Center, Richland, Washington," page 10 of 24, Action Card #5, Task D.

Remedial Action Demonstrated: This complete survey action was successfully re-demonstrated. The "step off area" from the controlled area to the clean area was not properly delineated when monitoring staff out of the controlled area. This activity was also successfully re-demonstrated.

d. **NOT DEMONSTRATED:** NONE

e. **PRIOR ARCAs - RESOLVED:** NONE

f. **PRIOR ARCAs – UNRESOLVED:** NONE

2.1.2 Benton County/WSDA Food Control Drill. This simulated food control point location was established at Locust Grove and Adair (adjacent to Exit 114, off Interstate 82).

a. **MET:** Criterion 1.d.1, 3.a.1, and 3.e.2. No new issues.

The evaluation of a Food Control Point demonstration was conducted out-of-sequence on September 18, 2002. The operation of a food control point was adequately demonstrated.

There were three FEMA evaluation criteria selected for demonstration and all were demonstrated adequately with no issues identified. Two responders participated in the demonstration and a third provided equipment that would be needed prior to the start of the demonstration. The two participants were a Benton County Deputy Sheriff and a WSDA Food Safety Officer. A simulated food control point was established on a dead end road adjacent to Exit 114 of Interstate 82. The two responders were not provided with any special drill related communication equipment; however, this did not hinder their ability to communicate with other locations. The Deputy Sheriff had several means of communication that included his normal law enforcement systems, which were radio-based. Cell phones were also available. Due to the out-of-sequence timing of the demonstration, all communications were simulated.

Both the Benton County Sheriff's Deputy and the Washington State Food Safety Officer had been issued an Emergency Worker Dosimetry Kit before they were mobilized to the food control point. The Kit contained a 0-20 R DRD, a TLD and appropriate forms and instructions. Both responders were aware of the initial reporting requirement of any upscale movement on the DRD. The location of food control points precludes any real concern for radiation exposure. These points are, by plan requirement, outside the area of impact of the deposited radionuclides and therefore are all in background areas. The responders did have more than adequate dosimetry and were well trained in its use in the event that a significant amount of radioactive material was brought to their location.

This out-of-sequence demonstration was limited to the demonstration of a food control point, which is the primary means of ensuring that potentially contaminated crops do not leave the impacted area. A roadblock was established using signage, barricades, and the presence of the Benton County Sheriff vehicle. A simulated load of freshly harvested apples was stopped at the food control point. The WSDA Food Safety Officer informed the driver that the load was exiting a food control area and by order of the Governor, it was not allowed to leave the area. The preprinted Washington Department of Agriculture "Trifold" information brochure was provided to the driver of the stopped vehicle. The driver was instructed to take the load of apples back to its point of origin. If he refused, the load was to be off loaded at the food control point. If there were no cooperation with any of these Food Safety Officer instructions, the Benton County Deputy Sheriff would implement law enforcement actions.

b. **DEFICIENCY:** NONE

d. **AREAS REQUIRING CORRECTIVE ACTION: NONE**

e. **NOT DEMONSTRATED:** NONE

f. **PRIOR ARCAS RESOLVED:** NONE

g. **PRIOR ARCAS UNRESOLVED:** NONE

2.2 FRANKLIN COUNTY

2.2.1 Emergency Operations Center: This facility is located at 502 Boeing Street, Pasco, Washington

a. **MET**: Criterion 1.a.l; 1.b.1; 1.c.1; 1.d.1; 1.e.1; 2.b.2; 2.c.1; 3.c.1; 3.c.2; 3.d.1; 3.d.2; 3.e.2; 3.f.1; 5.a.l; and 5.b.1. No new issues.

In accordance with the pre-exercise agreement, the Franklin County EOC staff was to demonstrate 15 evaluation criteria. All criteria were adequately demonstrated with no performance issues noted.

The mobilization of the Franklin County EOC staff began after being notified by the Pasco Dispatch Center of a declaration of an ALERT by the CGS. The Dispatch Center is the 24-hour warning point for Franklin County and it received the notification from the CGS via a CRASH call at 0813 and via FAX at 0814. The CRASH system is a dedicated closed circuit telephone system that connects numerous response locations. The Emergency Director received the call from the Dispatch Center at 0818. The Operations Coordinator immediately started a telephone notification process where 17 responders were contacted and told to report to the EOC. In addition, 9 additional responders and or response locations were notified and put on stand-by status. The EOC staff took responsibility for answering the CRASH calls at 0822. The EOC was declared operational at 0859 when all key responders were present.

The Franklin County EOC is located at 502 Boeing Street in Pasco, Washington, and is sufficient to support the emergency response. The EOC has a Panaboard, Emergency Classification Board, two FAX machines, a printer, a television (for media monitoring), an LCD projector for display map depicting current situation (run on GeoMedia Professional software), two VCR's, three computers, a Kitchen, air conditioning and restrooms. The 10KW (with fuel tank) back up generator is tested once a week. A copy of the complete Plans and Procedures is available and each response position has a specific binder with appropriate checklists. The procedures are color-coded for either a response to a CGS or Department of Energy emergency. Each response position has a phone and most have the ability to listen to any CRASH calls.

Key personnel within the Franklin County EOC demonstrated the ability to provide direction and control to that portion of the response effort for which they were responsible.

The lead individual responsible for direction and control in the EOC was the EOC Director. He conducted briefings on a routine basis and whenever there was a significant change in the status of the incident. He was the primary spokesperson on all CRASH calls, but he did not hesitate to ask other EOC staff members to participate on the CRASH calls when appropriate. He reminded staff to maintain logs of their activities and he had prepared a job aid for each response position that included a reminder to document all actions.

The EOC Director received excellent support from the staff of the Franklin County Emergency Management Office as well as from the responders from the other County agencies designated in the Plan. The entire staff worked together in an exemplary manner that did not require detailed directions from the EOC Director. When PA decisions were being contemplated, the EOC Director facilitated a complete and comprehensive presentation of all views.

Franklin County EOC is supported with the standard analog telephone lines (24 High Capacity (T1) Digital voice channels through a switch, the CRASH phone system, and HF Radio Transceivers). The analog telephone lines and CRASH lines act as a primary communication system with the HF Radio and acting as a secondary system. The RACES operators demonstrated receipt and transmission of key voice dispatches between Washington State EOC and the EOC using the 80 meter HF Band. During the exercise, the CRASH Line was repeatedly used as well as the Analog and Digital Lines. All of these systems together represent an operational primary and a backup communication system between emergency organizations that operated successfully.

Equipment, maps, displays, dosimetry, potassium iodide (KI), and other supplies are sufficient to support emergency operations. All activities were performed in accordance with the Franklin County EOC plans and procedures.

The Franklin County EOC has five Emergency Worker Kits and a Charger. Only one Emergency Worker requiring dosimetry and or KI is dispatched from the EOC. The Emergency Worker Kits each contain a TLD, 0-20 R dosimeter, packet of 14 KI pills with "Patient Package Insert" and the "Emergency Worker Exposure" form. The Dose Limit Action Guide for Emergency Workers is also included in the Kits. This form directs the emergency worker's procedures for reporting any increase in dose amount. The Direct Reading Dosimeter's (DRD's) allow for the reading of the 5R exposure limit. The Kits were inventoried and inspected on May 10, 2002. TLD chips were replaced and self-reading dosimeters were inspected for electrical leakage and replaced if necessary.

The ability to make appropriate decisions on PAs for the general public was demonstrated by the staff in the Franklin County EOC. The Emergency Chairman, a position filled by one of the elected County Commissioners, was the designated decision maker. He solicited input from the EOC staff and considered these recommendations along with the Energy Northwest recommendations. The initial PA was for the implementation of preplanned precautionary actions that were triggered by a SAE declaration by Energy Northwest. The precautionary actions included the closing of the Columbia River, the precautionary transfer of students in the schools (one public and three private), within the EPZ and the closure of recreation areas. This decision was made at 0950 after receiving the utility notification of the SAE at 0941 via a CRASH call.

Shortly thereafter, the utility escalated the emergency to a GE, via CRASH call at 0957, with a recommendation to evacuate Section 2 and to shelter the remaining Sections. A brief but thorough discussion was held and the conclusion was to not accept the utility PAR. The Franklin County Emergency Chairman made the decision to evacuate Sections 1 and 2 at 1006. The primary reasons for adding the additional Section to the evacuation decision was the potential for a wind shift and the relatively small population in Section 1.

Currently, Washington State does not endorse the use of KI by the general public. The preferred action is the evacuation of potentially hazardous areas. The capability to make PA decisions for special populations was demonstrated by staff of the Franklin County EOC. The only special population group in the 10-mile EPZ was school children attending one public school and three private schools, all in Section 2. The concept of operations contemplates the precautionary evacuation of these students to the Isaac Stevens EWAC during the SAE. Classification Notification Form (CNF) # 3, received at 0944, contained this pre-planned PAR. After verifying that the Transportation Coordinator had the requisite number of buses available and that the EWAC was being activated, the Emergency Chairman made the decision to evacuate the school population at 0950.

Individual members of other special population groups; e.g., transit dependent or mobility impaired, were considered a part of the general population. The decision to evacuate all of the populated areas of Franklin County, Sections 1 and 2 was made at 1006.

The implementation of PA for schools was adequately demonstrated by the Franklin County EOC by the evacuation of schools within the 10-mile EPZ. The Extent-of-Play in this exercise was limited to the Pasco School District Transportation Department and the Edwin Markham Elementary School. The evacuation of Edwin Markham Elementary School was simulated. The EOC Transportation Co-ordinator (TC), the Pasco School District Transportation Department's Assistant Supervisor and two school bus drivers, designated as Emergency Workers (bus drivers qualified to evacuate the schools during a radiological emergency), were interviewed during this exercise.

The County's Radiological Emergency Response Plan includes separate evacuation plans for the 4 schools (1 public and 3 private schools) located in the EPZ and within Franklin County. Each of the 3 private schools has their own buses and vehicles on hand to evacuate students and staff. The EOC notifies the schools to standby during the ALERT ECL.

The EOC TC arrived at the EOC at 0840, signed in, and informed the Managers he was present and talked about the current status of plant and emergency. At 0845 the EOC TC telephoned Edwin Markham Elementary School (located about 20 miles north of the EOC and within the 10-mile EPZ of the Columbia Generating Station) and informed the secretary in the Principal's Office of the ALERT and to standby in the event of an evacuation. The TC also requested the number of students and staff at Edwin Markham that would require evacuation. The school reported they had 285 students and 30 staff presents that day. The TC telephoned the Pasco School District Transportation Department at 0850 and asked how many buses were available if the school had to be evacuated. The Pasco School District had 20 buses available (65 passenger).

The TC also contacted the private schools in Section 2 of the EPZ to obtain numbers of students and staff that might require evacuation if the PA decision was made to evacuate the schools.

At 0944 the EOC was advised the emergency was now at the SAE ECL. At 0950, the EOC Operations Coordinator advised the TC and Edwin Markham Elementary School to begin evacuation as a precautionary PA decision. At 0952, the TC notified the Pasco School District Transportation Department to start evacuation.

At 0958 the EOC was informed the emergency was now at the GE ECL. The estimated time for the buses to arrive at Edwin Markham School and evacuate the students and staff is about 25 to 30 minutes. The school was evacuated at 1025.

The school bus drivers and Pasco School District Transportation Department Supervisors have hand-held 2-way radios for communications and can also use the 2-way radios to contact the EOC regarding the status of the DRD readings.

The ability to establish appropriate ACPs and TCPs was demonstrated. ACPs for the EPZ sections are established by Procedure at the SAE and GE conditions. The EOC staff discussed the location of pre-planned ACPs and TCPs. All of the agencies assigned these responsibilities were contacted and their ability to man the positions was verified. The status of the various locations was posted on the electronic display board so that all EOC staff could see which locations were staffed and which were in the process of being staffed. In accordance with the pre-exercise agreement, demonstration of the

establishment of ACP/TCP locations was performed out of sequence with the exercise and was verified by interview rather than direct observation.

Law enforcement personnel of the Franklin County Sheriff's Office and the Pasco Police Department staffed the seven access control points identified in the Franklin County Emergency Plan. The decision to dispatch these deputies/officers is automatic based on the event classification and is accomplished by the Law Enforcement Coordinator in the EOC in coordination with the Watch Commanders for the two agencies.

One Franklin County Sheriff's Deputy and one Pasco Police Department Officer were interviewed and were presented with a postulated obstacle to an evacuation route. They verified that they would either attempt to remove the obstacle themselves or radio to their dispatch center to obtain the resources (tow truck) in order to remove it.

The ability to resolve impediments to evacuation was demonstrated. During the exercise, a simulated report of an overturned cattle car was received at the EOC at 1145. The County Sheriff and the Law Enforcement Coordinator re-routed the traffic to accommodate the situation within 11 minutes. In addition, reports of a car failure to start and a locked car were received at 1218 and 1220 respectively and were dealt with promptly by dispatching additional Emergency Workers to assist. All reported impediments to evacuation were effectively simulated.

The ability to develop appropriate strategies and to distribute pre-printed instructional material was demonstrated by staff of the Franklin County EOC. In accordance with the pre-exercise agreement, the distribution of the instructional material was simulated. The Washington Department of Agriculture developed a description of a road network that would encompass the area that was to be put under an Agricultural Advisory. The Franklin County EOC staff reviewed this draft network description and found that it did not enclose the area of interest. After coordination with Walla Walla County staff, a corrected road network was developed and was issued at 1205.

The Agricultural Tri-fold information brochure was available electronically. In accordance with the pre-exercise agreement, actual distribution of this brochure was simulated. There were eight pre-identified locations where this brochure was to be made available. Each location was to receive 150 copies of the brochure. The EOC staff would have printed the copies from the electronic file that was resident on the County computer system. Staff from the County Public Works started (simulated) distributing the printed copies to the predetermined locations at 1041.

Implementation of return decisions was demonstrated. When the State established the initial restricted area, it was apparent that there were no populated areas within Franklin County that were impacted by the plume or deposited radioactive material. The County Sheriff maintained ACPs around the previously evacuated areas within Franklin County and assured that only appropriate individual were allowed to return to those areas.

The ability to formulate the initial notification of the public in a timely manner was demonstrated. In accordance with the concept of operations in the Franklin County plan, Benton County makes the contact with the EAS station and Franklin County serves as a backup. Pre-scripted EAS messages are contained in the plans and procedures along with a pre-scripted follow up supplemental message. The EOC discussed which message was to be aired with the Benton County EOC after the Emergency Chairman had made the decision that would necessitate notifying the public. The initial Alert and Notification activation was conducted after the decision was made to implement the preplanned

precautionary actions based on the SAE declaration by the CGS. The sounding of the sirens and the EAS broadcast time was coordinated with Benton County and all activities were completed within 15 minutes of the decision.

A subsequent Alert and Notification (A&N) sequence was similarly coordinated with Benton County when the initial evacuation decision was made after the GE declaration. When the wind shift occurred and Benton County added an additional Section to the area under an evacuation, an additional A&N sequence was demonstrated. In all cases, the A&N sequences were completed in a timely manner. The EOC staff maintained contact with County staff in the JIC. The Emergency Chairman approved all Franklin County News Releases. Information on the status of the Franklin County response was provided to JIC staff to be included in JIC briefings.

b. **DEFICIENCY**: NONE

c. **AREAS REQUIRING CORRECTIVE ACTION**: NONE

d. **NOT DEMONSTRATED**: NONE

e. **PRIOR ARCAs - RESOLVED:** NONE

f. **PRIOR ARCAs – UNRESOLVED**: MS-1 69-00-21-A-02 and MS-1 69-00-21-A-03. Not to be demonstrated in this exercise. These will be demonstrated at next scheduled Lourdes Health Center Drill

2.2.2 Edwin Markam Elementary School

a. MET: Criterion 3.a.1; 3.b.1; and 3.c.2

The Assistant Supervisor of the Pasco School Transportation Department and 2 designated Emergency Workers/bus drivers were interviewed during this exercise.

The Transportation Department currently has 20 bus drivers identified as Emergency Workers and trained on an annual basis by the Franklin County Emergency Management staff. The last class was provided on September 4, 2002. The Transportation Department Supervisor and Assistant Supervisor received training as Emergency Workers, and are familiar with the EOC Plan and Procedures for Emergency Worker exposure control. This organization met the criteria for protection action implementation.

The Franklin County Emergency Management staff maintains Emergency Worker Kits at the Pasco School District Transportation Office (Pasco), North Franklin School District Transportation Office (Connell), and Basin City Elementary School (Basin City) in order to support the evacuation of the one public and three private schools within the EPZ. A plastic container stored in the Pasco School Transportation Department's Assistant Supervisor's office contains 15 Emergency Worker Kits. Each Kit includes a 20 R Direct Reading Dosimeter (DRD) TLD, and KI tablets (14 tablets, each with 130 mg. KI with instructions, expiration at date "8/05"), with directions to Edwin Markham Elementary School and the Reception Center. Each Kit also includes instructions for using the DRDs and TLDs, turn back values (EOC Plan / Procedure IP EW-0, 7 pages, dated July 18, 2001), and log for recording dosimeter and TLD serial numbers and identity of the Emergency Worker. The plastic

container has 1 DRD charger for setting the DRD reading to zero. The transportation Dept. Supervisor briefs and issues the Kits to each Emergency Worker/ bus driver.

The Emergency Workers are instructed to read their DRDs every 15 to 30 minutes according to procedures (IP EW-0). The primary turn back value is 2.5 R. The administrative reporting limit is "any increase to the DRD reading" and this information is required to be reported to the Supervisor and County EOC. Emergency limits may be allowed up to 5 R, 10 R and 25 R depending on specified circumstances described. Only the State Health Officer can approve a mission requiring up to 25 R exposure.

The bus drivers are to call their Supervisor and the EOC Operations Coordinator if the notice an increase in the DRD readings and to request radiation doses exceeding the turn back value. Transportation Department Supervisor or EOC Emergency Management Director and EOC Health Officer may decide to replace an Emergency Worker based on radiation dose or other factors affecting the health and safety of the worker and the assignment.

The bus drivers are instructed to turn in their Kits, dosimeters, dosimeter logs and forms to the Dose Tracker at the Emergency Worker Assistance Center (Isaac Stevens Middle School in Pasco) and follow instructions of monitoring teams for decontamination.

The Emergency Workers/bus drivers interviewed during exercise understood how to use the Kits, instructions, forms and KI that may be issued to them during a radiological emergency. They understand the turn back values and reporting requirements. The Emergency Workers/bus drivers interviewed during the exercise understood how to use the Kits, instructions, forms and KI that may be issued to them during a radiological emergency. They understand the turn back values and reporting requirements.

b. **DEFICIENCY**: NONE

c. **AREAS REQUIRING CORRECTIVE ACTION**: NONE

d. **NOT DEMONSTRATED**: NONE

e. **PRIOR ARCAs - RESOLVED**: NONE

f. **PRIOR ARCAs – UNRESOLVED**: NONE

2.2.3 Emergency Worker Assistance Center (EWAC). The facility is located at the Columbia Basin College, 2600 North 20th, Pasco, Washington.

a. MET: Criterion 1.d.1; 3.a.1; 6.a.1; 6.b.1; and 6.c.1.
ARCA cleared: 69-00-18-A-01. No new issues.

The evaluation of the Emergency Worker/Assistance Center (EWAC) was conducted out-of-sequence on September 21, 2002, on the campus of the Columbia Basin College in Pasco. This EWAC is a new facility and is designated to replace the current EWAC that is in the Isaac Stevens Middle School when new public information brochures are published. There were four FEMA evaluation criteria selected for demonstration and all were demonstrated adequately. One previous Area Requiring Corrective Action was successively demonstrated. In accordance with the Extent of Play Agreement, all staff of the EWAC was pre-positioned in the Franklin County EOC prior to the start of the demonstration.

At 0815 the Franklin County/Pasco Dispatch simulated a call to the EWAC Coordinator to place him on Standby status. At 0820 the EWAC Coordinator received a simulated notification from the Franklin County/Pasco Dispatch to activate the EWAC. The EWAC Coordinator immediately started the EWAC call-down procedures. It took approximately 10-minutes to complete this call down. At 0828 the EWAC Security Officer was dispatched to the Columbia Basin College to open the College and start the initial preparation to receive the EWAC support agencies. The first support agency (Franklin County Fire and EMS) arrived at the EWAC facility at 0852. The EWAC Coordinator closely followed the ESF-10.C: Franklin County Radiological Emergency Response: Energy Northwest implementing procedure.

As Emergency Workers arrived at the EWAC, they signed their name by their position on a sign-in board located in the EWAC Administrative Office. Here they received a procedures manual specific for the position that they were filling. On the cover, each manual listed the position and the required equipment. In addition to specific procedures, the manual also contained an equipment list, relevant diagrams and photographs of the EWAC setup, a TLD, an Emergency Worker vest, and a list of radio call signs. The EWAC Administrative Assistant signed out hand held radios to all response position team leaders.

The Portal Monitors cases and other support equipment were removed from their storage location and placed in the exact location where responders were to use the specific equipment. The first radiation monitoring personnel to arrive obtained the Bicron survey meters model "Survey" with Ludlum model 44-9 pancake probe, inserted batteries and performed operational checks using a known source with a known expected response. This operational check was documented on the "Franklin County Emergency Management Radiation Count Meter and Detectors: Reference Check Source Record." The instruments had been calibrated in June 2002 and are due again for calibration in June 2003.

In accordance with the Plan (IP E-1-5.4.A), Guide No. 1 (aka Host) was in position to greet incoming Emergency Workers and evacuees. The Host handed out a sheet explaining the process and directed vehicles to the Spotter. The Spotter (IP E-1-5.E) further directed Emergency Workers to the vehicle monitoring station (VMS) and evacuees to the vehicle wash station.

The VMS included a direction area, a monitoring area, a vehicle decontamination area and a re-monitoring area. These areas were all set up in accordance with the procedures. Equipment consisted of a Stop sign at the direction area, roped stanchions and a table with monitoring equipment

and supplies at the monitoring area, and a small Pasco Fire Department rescue truck with a 250-gallon water tank at the decontamination area. The Fire Vehicle was connected to a fire hydrant. It was estimated that the fire hydrant would produce about 1,500 gallons per minute.

A unit of the Pasco Fire Department established the private vehicle wash station. The fire truck was connected to a fire hydrant that could supply water for washing private vehicles. Fire Department personnel brought dosimetry to the EWAC from their respective stations.

The Portal Monitor used was a SAIC Model PPM-1003. The sides of the Portal monitor were wrapped in thin plastic wrap and the base where people would stand while being monitored was covered with a "sticky" pad to aid in contamination control. An operational check was successfully conducted using a one-microcurie Cs-137 button check source. Tape was placed on the floor approximately 10 feet in front of the Portal Monitor to mark the place where people waiting to be monitored should stand.

Equipment to be used in the female decontamination station (FDS) was inventoried using an inventory checklist. There were no shortfalls, if there were, missing items would have been replaced immediately. Two Bicron "Surveyor" meters with Ludlum model 44-9 GM pancake probes calibrated June 9, 2002, were available for monitoring. Prior to use, the instruments were checked for proper operation using a radioactive source of known value. The instrument background was checked and the probes were covered with thin plastic to prevent contamination of the probe. The FDF was set up in an orderly and timely manner and was declared operational at 0942. Communication, by radio, between the FDS and the Radiation Health Physicist (RHP) was checked.

Upon arrival at the male decontamination station (MDS) at about 0920, one of the team members checked the equipment and Documentation Kit and found it to be complete. The specified Emergency Worker Exposure Forms were filled out for each member of the team with the TLD serial numbers and date and time of issuance noted.

The station was set up in accordance with procedures and with the aid of the RHP. Tape (on the floor) and "Radiation Area" labels were used to delineate the boundary between potentially contaminated and clean areas. Emergency Worker exposure forms were filled out for each team member. Containers were provided for radioactive waste and for any personal items, which may have to be taken from the evacuees for decontamination and subsequent return to them. Replacement clothing was available for evacuees whose clothing may be contaminated and taken from them for decontamination. The station was reported to the RHP as operational at 1012.

When the American Red Cross (ARC) staff arrived, the Registration/Mass Care Director was provided a notebook and a radio for internal communications. In addition, the ARC Manager carried a separate phone to maintain contact with the ARC local headquarters. The Manager quickly and effectively had the ARC staff mobilized and establishing a registration desk at the doorway of a room directly off the monitoring area. In addition to registration staff, there was a second area where two ARC health staff members were that would handle physical or mental/emotional concerns. There were a total of three ARES personnel as part of the ARC team to maintain contact between the registration center and the mass care unit.

The Washington Department of Health established a dose tracker station. This individual was in the clean area. When Emergency Workers were processed, their exposure readings from their DRDs

would be logged into a computer database along with any reported contamination that was successfully removed.

The EWAC Coordinator conducted an informal walk through of the VMS and decontamination stations and ensured that the appropriate number of staff were on-board to support the operations. He ensured that the set-up of the outdoor area was being accomplished in accordance with the plans and procedures including the use of directing signs. Throughout this process, there were several informal coordination meetings between the Coordinator and the response position staff to ensure that the logistical support was available.

At 1005 the EWAC Coordinator conducted a quick check on the EWAC Communications Center to ensure that the operational procedures were in place and that communications has been established with outside agencies.

After verifying that setup had been completed, the entire EWAC staff was brought into the gymnasium and provided a situation update brief from the EWAC Coordinator and the WA DOH RHP. At the conclusion of this brief, the coordinator asked if there were any last minute issues or logistical problems before declaring the EWAC operational. In addition, the Coordinator ensured that each Emergency Worker went through the Portal Monitor before proceeding to his or her respective workstation.

At 1010 the briefing was complete and the EWAC was declared operational. At 1015 the Coordinator called the Franklin County Emergency Operations Center and officially declared the EWAC fully operational. It took approximately 1-hour and 50 minutes to complete setup, verify status, and declare the EWAC fully operational.

The four personnel at the VMS had each been issued a 0-20 R Dosimeter Corporation Model 622 self-reading dosimeter (Ellis - serial # 0042721) and a thermo-luminescent dosimeter (TLD). The proper registration forms for the TLD badge, present in the EWAC Emergency Worker Kit and Duty Notebook, were completed. However, the Social Security number was left blank. The two vehicle monitoring personnel used gloves; and the fire personnel performing the decontamination had complete dress out gear, goggles and a face shield affixed to their helmet.

Vehicles were directed to the VMS and the drivers stopped at the Stop sign. The VMS personnel interviewed the drivers, private vehicles were directed to the private vehicle wash area, and Emergency Worker vehicles were directed to the vehicle monitoring area. Both monitoring personnel monitored the Emergency Worker vehicle. The areas monitored included: tires, wheel wells, windshield, bumpers and the front surface areas. The vehicle was contaminated (> 130 -150 cpm), a decontamination tape was attached to the contaminated areas, and the driver was directed to the decontamination area. The decontamination tape is not mentioned in the procedures, but it did not have an affect on the demonstration.

For demonstration purposes, the vehicle was decontaminated (simulated). Normally, the vehicle would be allowed to park in the Emergency Worker Vehicle Parking area unless it exceeded 1,000 cpm. The vehicle was successfully decontaminated.

During the initial monitoring process, one monitor continuously touched the vehicle surfaces areas (tires and grill). While the vehicle was being decontaminated, this was discussed and the technique during the re-monitoring following decontamination was much better. The instrument's probes are

covered with plastic to prevent contamination of the monitoring instrument, but staying 1/2 inch to one inch from the vehicle surfaces prevents having to constantly remove the contaminated plastic and install new plastic.

Private vehicles were allowed to pass the VMS and they were directed to the vehicle wash station. The second Pasco Fire Department truck and its crew washed the vehicle using a spray nozzle. The vehicle was directed to a private vehicle parking lot adjacent to the gym. The evacuees were directed to the gym for monitoring.

The time required to monitor six evacuees was 244 seconds or 40.67 seconds per evacuee. This EWAC supports a general population of approximately 2000 people. Therefore, it would take approximately 4.5 hours to monitor 20 percent of the population (400 people). Each person monitored and found free of contamination was provided a brightly colored sticker (approximately two inches by four inches) to wear. The sticker was boldly printed with "MONITORED – This individual has been determined to be free from radioactive contamination."

An evacuee family consisting of a father and two daughters, ages seven and eight, arrived. The father was the first of the three to be monitored. He was contaminated and directed to the MDS. The two daughters waited in front of the Portal Monitor. After an Emergency Worker cleaned the floor, where he had walked with a Maslin mop (this corrects the outstanding Issue No. 69-00-18-A-01) and had changed the "sticky" pad on the floor of the portal monitor, the two daughters were monitored and found to be free from contamination. The girls were directed to the Red Cross Registration Area for registration. The girls were assured that their father would return shortly and that they would be kept together. Both girls were asked if they were okay or did they need to see a doctor. The eight-year-old complained of a sprained angle and immediately a Red Cross nurse checked her ankle. The girls remained in the Red Cross Registration Area under the care of a Mental Health Professional while they waited for their father. At no time did either girl appear to be frightened or distressed.

By interview with a Red Cross Worker, if the father required transportation to a medical facility, the Red Cross would attempt to locate another family member. If that were not successful, Child Welfare would be notified.

In accordance with plans and procedures, the individual found to be contaminated was questioned by one of the staff at the portal monitor station as to the license number and the make and model of his vehicle. Since only the exterior of the private vehicles had been washed and there had been no monitoring of any part of these vehicles, the vehicle was considered potentially contaminated. The current plan calls for the RHP to decide who will drive the vehicle without reference to where to take the vehicle or how the keys would be obtained. The RHP, EWAC Coordinator and Supervisory Radiation Monitor (a County EWAC position) held a very good discussion on the appropriate disposition of this vehicle. They concluded that it would be best to handle "people first and vehicles later." They decided to secure the vehicle and leave it in the parking area until monitoring personnel were available to monitor the vehicle, including the interior. This decision was somewhat outside the provisions of the current plan; however, it was a good decision. The responders were unaware that their decision should be carried to completion. When it was brought to their attention that the pre-exercise agreement did not allow simulation of this type activity, the RHP and EWAC Coordinator located the vehicle in question in the parking lot, placed a radiation sign and a "do not operate" sign on the windshield and wrapped radiation ribbon around the vehicle. This completed the demonstration of securing the potentially contaminated vehicle.

Monitoring of the first individual sent to the FDS was accomplished in a professional, effective and efficient manner. A "Personnel Contamination Charting Worksheet" was used to identify the individual and chart the location of contamination. Contamination was detected on the individual's left hand and jacket. The jacket was removed, bagged, tagged for identification, and a receipt was given to the owner. The individual's left hand was decontaminated using a "handy wipe" and re-monitored. After the individual was decontaminated, she was given a green "MONITORED" sticker, a completed copy of the charting form and escorted to the Dose Tracker.

Personnel operating the FDF explained the procedure for decontamination using the washbasin and the shower. They were aware that 100 cpm or greater indicated contamination and that if decontamination was not successful after three attempts, they were to contact the RHP for further instructions.

In the MDS, monitoring personnel wore surgical gloves, and the monitoring instrument probes were covered with thin plastic, in accordance with procedures. Background radiation level was measured and recorded. The team members were aware of the decontamination action level (100 counts/min). They were also aware of the action to be taken if, after three decontamination attempts, contamination levels could not be reduced to below the release limit of 100 counts/minute. (They would contact the RHP.) One evacuee was monitored in about seven minutes, the beginning of which was at 1028. Monitoring technique was good; probe movement rate was about one-inch/second, and the specified ½-inch separation between probe and surface being monitored was maintained. By controller inject, monitoring detected 130 counts/minute on the back of the head and on the left upper portion of the back. The evacuee was asked to remove his cap and shirt, whereupon he was re-monitored, and no contamination was found. The shirt and cap were bagged, tagged (with a radiation symbol label), and placed in the can provided for that purpose.

The evacuee was provided with a green "MONITORED" sticker, as proof to the registration area that he had been monitored and was free of contamination, and was released from the monitoring/decontamination station at 1043.

Monitoring of the individual, removal of his contaminated clothing, and re-monitoring had been done at the same position within the potentially contaminated ("hot") area of the station. Before his release, as part of his re-monitoring, his shoes had been checked, and were found to be clean. The evacuee then walked through the "hot" area and exited to the "clean" side of the station with no further monitoring. This action was noted and communicated to the monitoring personnel, at which time the correct method, monitoring of the individual as he stepped from the "hot" side to the "clean" side, was correctly demonstrated.

The ARC registered a total of eight individuals. They were extremely alert to prevent individuals from entering the area unless they were wearing a green monitored tag. Two young children were registered. They waited with the health staff while their father was being decontaminated. When the father arrived in the registration area, after being registered the family was reunited. The registration area used the standard ARC registration three-part form.

The path from the Registration Center to the Care Center is well marked. It is a spacious facility that can support temporary care of evacuees. The facility can hold approximately 100 evacuees. Additional care center locations have been pre-identified. If it is necessary to open more than one care center, the Red Cross Headquarters has a master list of all evacuees, and which Care Center they are staying at. When a relative is looking for an evacuee, they can call the Red Cross Headquarters and

they can check their master list to see at which care center the evacuee is staying. Cots were set up in a large room. It has seven bathrooms and adequate shower facilities. There is a dining hall that can handle approximately 300 evacuees at a time. How the evacuees are fed would be determined by how long they would remain at the Care Center and the number of evacuees.

When the "runner" arrives at the Congregate Care Center with the evacuees, he turns their registration paperwork over to the Facility Manager at the care center. He re-checks the registration paperwork to make sure the information is correct, and the evacuee has been monitored. Then the evacuees are given some refreshments and snacks and their needs are taken care of.

If an evacuee came to the EWAC with a pet, the pet would not be allowed into the Care Center, but they would call the Humane Society or The Richland Kennel Club, which has volunteered to take care of evacuee's pets, for a short period of time.

The operation of the Columbia Basin College EWAC was successfully demonstrated.

b. **DEFICIENCY: NONE**

c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE

d. **NOT DEMONSTRATED:** NONE

e. **PRIOR ARCAs - RESOLVED**

Issue: 69-00-18-A-01

Description: Maslin cloth not available for use in 2000 EWAC Drill.

Corrective Action Demonstrated: An evacuee family consisting of a father and two daughters arrived. The father was the first of the three to be monitored. He was contaminated and directed to the MDS. After an Emergency Worker cleaned the floor, where he had walked with a Maslin mop and changing the "sticky" pad on the floor of the portal monitor, the two daughters were monitored and found to be free from contamination. (This corrects the outstanding Issue No. 69-00-18-A-01.)

f. **PRIOR ARCAs - UNRESOLVED:** NONE

3. SUPPORT JURISDICTIONS (WASHINGTON STATE)

3.1 Grant County

3.1.1 **Emergency Operations Center** - The EOC is located in the National Guard Armory, Moses Lake, Washington.

a. **MET:** Criterion: 1.a.1; 1.b.1; 1.c.1; 1.d.1; 1.e.1; 3.e.1; and 3.e.2. No new issues.

Grant County used effective procedures to ALERT, notify, and mobilize emergency personnel and to activate the County EOC in a timely manner. However, because the exercise scenario did not impact Grant County, either on the plume (Day 1) or ingestion exposure (Day 2), the County was not at risk, and only limited mobilization of emergency response staff to the EOC was performed. At all times, the County was prepared to mobilize all required staff if the situation warranted.

On Day 1 of the exercise, Grant County received initial notification of the ALERT ECL at the CGS at 0845. The notification was a FAXed copy of the CNF No. 1, which was immediately followed up by a telephone call from the Washington State EOC verifying that Grant County had received the message. The Acting Director received the ALERT notification in he EOC. The EOC is the normal duty station for the emergency management staff. The Acting Director explained that during off-hours the County 911 Dispatch Center would notify her by phone or pager. The State makes the initial notification to the County 911 Dispatch Center. The Washington State Liaison, who was pre-positioned nearby in accordance with the Extent-of-Play, arrived at the EOC at 0902.

The Plan indicates that staff will not be required to report to the EOC until the SAE ECL. And, since additional staff was not needed at the EOC because of no impact to Grant County on Day 1, the EOC was considered to be operational as of 0845 (the time of the initial notification). Subsequent notifications for SAE and GE ECLs were received at the Grant County EOC at 1010 and 1037, respectively. Although it was decided not to mobilize staff to the EOC during Day 1 because Grant County was not at risk, the acting Director kept key staff informed by telephone and by FAXing key information to their normal work stations. This was done for the County Commissioner, the Sheriff, and the Health Officer.

On Day 2 of the exercise, even though Grant County was not impacted relative to ingestion pathway risks, the Director decided to have some key staff report to the EOC to participate in a tabletop training session. Staff who participated in this ingestion pathway training included the Director, Acting Director, State Liaison, and representatives of the County Department of Public Works, Health Department, Nursing Office, and Washington State University Extension.

Observed activities related to this criterion were performed in accordance with the plan and procedures relative to limitations of the exercise scenario.

The facilities at the Grant County EOC are sufficient to support emergency operations. The existing EOC is relatively small, but is sufficient for the limited number of personnel operating out of this facility. The EOC floor plan is illustrated in Tab F of Appendix 2 of the Grant County Plan. During the exercise, the EOC was set up as shown in this illustration. The EOC has sufficient furnishings, lighting, restrooms, and ventilation to support the operations. The EOC is located in a room adjacent to the Grant County 911 dispatch communications center and has the same backup power provided to

for the dispatch center. If the EOC became overcrowded during a real emergency, the operations could be extended into an adjacent training classroom. According to the Grant County Emergency Management Director, telephone lines could easily be extended into this adjacent room. Observed activities related to this criterion were performed in accordance with the Plan.

Key personnel with leadership roles for the Grant County Department of Emergency Management provided adequate direction and control to the Grant County emergency response effort during the exercise.

The Grant County Emergency Management Director is in charge of the County's emergency response activities. The Director works under the authorization of the County Board of Commissioners. During the exercise the County Emergency Management Coordinator acted in the capacity of the Director since the actual Director was acting in the role of exercise Controller. Although the Coordinator, acting in the role of Director, took the lead in exercise direction and control at the EOC, the actual Director supported the Acting Director's activities for training purposes by answering questions and offering clarifications as needed.

The Director is responsible for making PADs for the County and for coordinating with other jurisdictions. Because the exercise scenario did not impact Grant County, no PADs were required for the County; however, the Acting Director maintained telephone communications with the State and risk Counties throughout the exercise. Copies of the Grant County Plan and Implementing Procedures were available at the EOC. Procedures and checklists were distributed to EOC agency representatives who participated for training purposes on the ingestion pathway Day 2 of the exercise. Observed activities related to this criterion were performed in accordance with the Plan and Procedures.

The adequacy of communications systems at the Grant County EOC was demonstrated during the exercise. The Grant County EOC has multiple communications systems, and all systems operated properly during the exercise.

The primary communications system is commercial telephone. A total of 13 telephone lines come into the EOC, eight of which are located in the EOC Operations area. A dedicated telephone line is also present in the EOC and is used by the State of Washington to notify Grant County of an emergency at the Columbia Generating Station. Two FAX machines are also present in the EOC operations room and were used extensively during the exercise to receive CNFs and Press Releases from the Utility, States and Counties, and technical information from the State. The EOC also has Internet and E-mail capabilities, which was used for information exchange with County representatives at other locations. An EAS radio is also present in the EOC, which allows Grant County to do direct broadcast of EAS radio messages from the EOC. Since Grant County was not required to do public notification during the exercise, this EAS radio was not utilized during the exercise. Also available but not used during the exercise is a radio for communicating with the DOE Hanford site security patrol. This can be used as backup to the telephone system. ARES amateur radio was also set up in the EOC, but was not used during the exercise. A CEMNET radio system, that is an emergency management radio connecting the State and Counties, was also present in the EOC as a back-up system. During the exercise, a radio check was conducted by the State on this system. Observed activities related to this criterion were conducted in accordance with the Plan and Procedures.

Equipment, maps, displays, and other supplies at the Grant County EOC were demonstrated during the exercise to be adequate to support emergency operations.

Displays in the EOC included: a status board; an ECL board; a large map showing the 10-mile EPZ and the 50-mile ingestion EPZ along with roads, rivers and PA planning zones; a board for summarizing outgoing News Releases; a National Weather Service meteorological information board; a State of Washington map; and a large board listing the various crops grown in Grant County along with their month or months of harvest. Status boards were updated in a timely manner after receipt of key information.

Since Grant County Emergency Workers are not required to enter the 10-mile EPZ, Grant County does not maintain an inventory of dosimetry and KI. Since the Grant County Sheriff may have to support the Washington State Police in the establishment of control points associated with Food Control Areas that potentially could be established in Grant County, the County has a supply of barricades that would be used in the establishment of these points. According to the Acting Director, these barricades are maintained at a County Department of Public Works facility in Royal City. Observed activities related to this criterion were performed in accordance with the Plan and Procedures.

During the exercise the radiological release and the deposition area did not impact Grant County. Therefore, there was no need for the County to take ingestion pathway PAs. Although the exercise scenario did not necessitate the participation of Grant County in ingestion pathway activities, the County Emergency Management Director proactively decided to mobilize some key EOC staff and agency representatives to the EOC on Day 2 of the exercise for training purposes. Based on this tabletop training and information obtained by the Evaluator's interview with the Emergency Management Director and Coordinator, this criterion was adequately demonstrated. Grant County demonstrated the availability and appropriate use of adequate information regarding water, food supplies, milk, and agricultural production within the Grant County portion of the ingestion EPZ.

The Grant County EOC maintains a listing of licensed dairies within the County. This listing indicates the name of the owner, name of the business, and location of the dairy. The County also has a listing in the EOC of the various agricultural crops grown in the County and the month or months when they are harvested. Public Works and the various municipalities within the County maintain information on the locations of water supply intakes. The Washington State University Extension representative who participated in the training and discussions on exercise Day 2 maintains detailed information on the locations of farms and crops. Observed activities related to this criterion were performed in accordance with the plan and procedures, within the constraints and limitations of the exercise scenario.

The radiological release and the deposition area during the exercise did not impact Grant County. Therefore, there was no need for the County to take ingestion pathway PAs. Although the exercise scenario did not necessitate the participation of Grant County in ingestion pathway activities, the County Emergency Management Director proactively decided to mobilize some key EOC staff and agency representatives to the EOC on Day 2 of the exercise for training purposes. These individuals included the Emergency Management Director and Coordinator, the PI Officer, the State Liaison, the Health District representative, the Washington State University Extension representative, the County Public Works representative, and the Nursing Office representative. Based on this tabletop training and information obtained by the Evaluator's interview with the Emergency Management Director and Coordinator, this criterion was adequately demonstrated. Grant County demonstrated that appropriate measures, strategies, and pre-printed instructional material could be developed by Grant County for implementing PA decisions for the ingestion pathway.

The Director explained to the EOC staff that ingestion pathway PAs would be necessary if radioactive materials from the plume were deposited in Grant County. He clarified that since the wind direction was toward the south and away from Grant County during the plume phase of the exercise, Grant County would not have been impacted. However, for training purposes, the Director postulated that the wind direction had been into Grant County and outlined on a map a simulated area of deposition within Grant County. This area would lie along and within a 30-degree area on each side of the plume centerline. The Director explained that it was the County's responsibility to now outline a Food Control Area (FCA) that would encompass the deposition area, but using geopolitical boundaries. The EOC staff then developed this boundary using specific streets and roads, and determined that 10 control points would be needed to ensure that no crops or foodstuffs left this area until appropriate testing had been completed by the State. The Public Works representative noted that there might not be a sufficient number of traffic barricades available at its storage facility, but that orange plastic construction fencing could be obtained from local sources and used in place of barricades. The Director Stated that Grant County would inform the adjacent Counties of its proposed Food Control Area boundaries to obtain their concurrence. If the Counties agreed, the proposed boundaries would then be sent to the State of Washington and its Department of Agriculture. When approved by the State, the County would then implement the Food Control Area.

Grant County has pre-printed booklets of informational material available for rapid distribution to affected areas within Grant County. This booklet is entitled, "Radiological Emergency Information for Farmers, Food Processors and Distributors" and is dated April 2000.

Observed activities related to this criterion were performed in accordance with the Plans and Procedures, within the constraints and limitations of the exercise scenario.

b. **DEFICIENCY:** NONE

c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE

d. **NOT DEMONSTRATED:** NONE

e. **PRIOR ARCAs - RESOLVED:** NONE

f. **PRIOR ARCAs - UNRESOLVED:** NONE

3.2. WALLA WALLA COUNTY

3.2.1 Emergency Operations Center

a. **MET: Criterion** 1.a.1; 1.b.1; 1.c.1; 1.d.1; 1.e.1; 2.b.1; 3.e.1 and 3.e.2. No new issues.

At 0849, the Emergency Management Director, Walla Walla received the "ALERT" notification via FAX from the Washington State EOC (WASEOC). From the time the CGS declared the ALERT ECL it took the WASEOC 45 minutes (0804 to 0849) to notify the Emergency Operations (EOC) in Walla Walla. At 0849 the EOC was activated, and staff utilized the call-down list to place the local government support agencies on "stand-by" status. In addition, in accordance with their Activation Plan, selectively called in the key EOC administrative support staff to assist with operations and

monitored the incident until situation closeout or escalation. The "ALERT" call-down was completed at 0902 hours. The EOC continued to review incoming information, monitor the situation, and as required updated the EOC maps and charts. Volunteers from the local high school Junior Reserve Officer Training Center (JR ROTC) participated as EOC "runners." The Assistant Director from the Columbia County Emergency Management Agency participated as an observer. WASEOC also sent a Liaison as an exercise participant.

At 0941 hours, the WASEOC contacted the EOC via the Emergency Management Radio System Comprehensive Emergency Management Network (CEMNET) to verify its communications and to confirm if the Walla Walla RACES was available as back-up communications.

At 0947 hours, the ECL had been upgraded to a SAE and the EOC was activated in accordance with their Plan. The EOC was declared fully operational at 1035 and conducted the first situation report and incident status.

The EOC Director actively coached, motivated, researched, and assisted the EOC staff in successful execution of all the functions.

In accordance with their Plan, the EOC staff assisted with the coordinated efforts of the WWEOC to complete a preliminary agricultural protection area boundary while simultaneously monitoring the current weather and wind conditions from the CGS under a worst-case scenario. Upon completion of the preliminary agricultural protection area boundary and before sending out the boundaries to WASEOC they verified the weather and wind conditions. Since there was a shift in the wind and the radiological plume did not appear to affect or come close to the County of Walla Walla, the EOC staff and local governmental agencies conducted a mini tabletop discussion or "what if scenarios." These discussions assisted the EOC to plan for all types of contingencies to support emergency response operations. When the updated radiological data and wind conditions were received from the WSDA, the Walla Walla County Commissioners decided not to forward the agricultural boundaries to WASEOC and hold off until conditions changed. The EOC staff was able to respond appropriately.

Although there were delays in receiving information from WASEOC, the EOC staff was pro-active in their approach to obtain information through the use of the WASEOC Liaison "back-channel" cellular phone calls.

The Walla Walla County Health Department pro-actively contacted the WADOH to obtain the latest prepared public information fact sheets that were prepared for dispatch to the general public. In addition, they actively researched and coordinated technical information on the effects of radiological release into the atmosphere.

With the assistance of the Washington State University Extension staff and other EOC staff members, the County Sheriff actively coordinated and developed potential traffic control and traffic access points, with staff requirements, in the event the plume was heading toward Walla Walla.

Since there was not enough exercise activity after 1352, the EOC reduced its operational status to "ALERT" status and released the EOC staff and placed them on an "On-Call" status. The EOC continued to monitor and update the maps, charts, and status boards and prepared for the possible increase in emergency response activities. At 1532 the EOC received a call from the WASEOC to terminate the exercise for Day 1.

The EOC is co-located with the County 911 System and is therefore equipped with the appropriate number of telephones and facsimile machines. The facility also has a back-up generator power supply system that can power both the utilities and telephone system. In addition to the above-mentioned equipment, the EOC has the capability to maintain close communications with WASEOC and the surrounding counties through RACES and the Emergency Management Radio Systems CEMNET. These systems were both successfully tested during the exercise.

The EOC has the capacity to provide individual workspace for each local response agency and organization. The EOC is equipped with several telephone and electrical hook-ups, office spaces, office furniture, male and female rest rooms, and a break room equipped with refrigerator and microwave oven. The entire EOC is well ventilated and provides adequate lighting. There is only one entrance to the facility through a secured passageway. A two-way mirror and a security monitor is used to control assess into the facility. The sign-in roster desk person controls and issues name tags to all EOC personnel, VIP's and their staffs. If required, coordination is made through the Sheriff's Department to provide security for the facility.

In accordance with their RERP, the EOC staff developed a preliminary agricultural protection area boundary, while simultaneously monitoring the current weather and wind conditions from the CGS. Utilizing a worst-case scenario, the staff coordinated their efforts to develop the agricultural protection area boundary with assistance from the State Liaison Officer before obtaining approval from the County Commissioners to dispatch this data to the WASEOC. Since there was a wind direction, speed, and updated radiological plume information, the decision to forward the data to WASEOC was withheld.

Although the wind shifted, the EOC staff, the County Commissioner representative, and the local governmental agencies conducted mini "what if" scenario discussions to determine worst case scenario emergency response or changes to the approved boundaries, if required. This discussion maximized the staff's time and prepared the EOC for possible future emergency contingency response. The County Health Department and the PIO prepared, obtained approval, and dispatched County Agricultural Advisories.

In accordance with the Extent-of-Play Agreement, the EOC, PIO and County Health Director showed a copy of the Emergency Preparedness brochure and briefed the County Commissioner on the emergency actions that the citizens should take if the emergency situation escalates. In addition, they discussed the means to expeditiously distribute these brochures to the citizens. The County Commissioner approved the distribution scheme of this brochure and reminded the staff to only distribute these brochures if it appears that the weather conditions will change and the radiological conditions will affect the citizens of Walla Walla County. Since the wind shifted away from Walla Walla, this activity was not demonstrated.

b. **DEFICIENCY:** NONE

c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE

d. **NOT DEMONSTRATED:** NONE

e. **PRIOR ARCAs - RESOLVED:** NONE

f. **PRIOR ARCAs - UNRESOLVED:** NONE

3.3 YAKIMA COUNTY

3.3.1 Emergency Operations Center. This facility is located in Room B-12 in the basement of the Yakima County Courthouse at 128 North 2nd Street, Yakima, Washington.

a. **MET:** Criterion 1.a.1; 1.b.1; 1.c.1; 1.d.1; 1.e.1; 2.d.1; and 3.e.1. No new issues.

There was no pre-positioning of players at the Yakima County Primary Emergency Operations Center (PEOC) on Tuesday, September 17, 2002, the first day of this exercise. At 0837, the Sheriff's Office hand delivered a FAXed copy of the CNF No. 1 from Energy Northwest indicating that the CGS was at ALERT status (in accordance with the Yakima County Radiological Protection Plan {YCRPP} Execution Section 10.a. "Provide emergency classification notification to PEOC").

In accordance with the YCRPP, the Director, Office of Emergency Management (OEM) began to identify adequate PEOC staffing in case the situation escalated. Additionally, contact was initiated with the Yakima County Commissioners (YCC) to apprise them of the situation. Per YCRPP, Execution Section A.1, "Early Phase," at 0901, OEM convened a meeting with YCC and other key personnel (attendance sheet was collected) to discuss the current status of CGS and likely scenarios that can be expected--including a possible need for an Emergency Declaration signed by YCC. Various information packets/pamphlets were distributed with the caveat that, at this point, no plume or toxic release had come from CGS. Following the status meeting with the YCC, at 0915, OEM and the YCC Chair held a press conference with local media to notify the County citizens of the situation at CGS (per YCRPP Execution Section C.b.).

At 0944, the Washington State Liaison (WSL) arrived at the PEOC to support Yakima County efforts. After a telephone conversation with the Benton County EOC at 1011, the WSL reported that the CGS had already declared a SAE ECL and was expecting to move to GE shortly. With this information, OEM chose to initiate contact procedures for on-call personnel identified to operate the PEOC as stated in the YCRPP Direction and Control Section B.2., "Yakima PEOC will be activated at Site Area Emergency."

Written verification of this ECL change came at 1017. Received via FAX, CNF No. 3 indicated the incident had escalated to SAE. At 1034, in addition to OEM, the Board of Commissioner's PI Officer (PIO), Department of Human Resources, Public Works, Yakima Sheriff's Office, Health Department, Washington Department of Ecology, Washington State University Cooperative Extension, and Yakima County 911 Dispatch arrived at the PEOC.

At 1035, the PEOC was determined to be operational and the OEM Director held the first PEOC briefing. Between 1044 and 1118, Fire Protection District No. 5, Council Chairman, Washing State Patrol (WSP) and the American Red Cross (ARC) joined the meeting in progress.

By 1037, in accordance with YCRPP Execution Section C.b., "Provide education for the public," an official Press Release concerning CGS status was released via the PIO and YC 911 Dispatch. At that same time, OEM worked with the PIO and Yakima County 911 Dispatch to craft an appropriate Emergency ALERT System (EAS) message. The County Human Resources' requested security guard arrived at1053, per YCRPP Execution C.6.a. At SAE status the PEOC received a security guard." At 1056, CNF No. 4 was received via FAX upgrading CGS status to General Emergency ECL. OEM commenced the first "all hands" briefing to a fully staffed PEOC at 1115.

The PEOC is located in Room B-12 in the basement of the Yakima County Courthouse (next door to the Yakima Sheriff's Office, their primary source of notification for an incident at the CGS. During this exercise, the Sunnyside and Grandview EOCs were not included in the Extent-of-Play although Sunnyside also activated its EOC and ran an internal exercise that interacted with the PEOC. Neither evaluator visited these because the EOCs were not working on the same schedules. Grandview, Granger, Mabton, Toppenish, and Zillah EOCs, subordinate to the Yakima County PEOC, did not have functioning roles during this exercise.

Space in the PEOC was limited as the YCC recently annexed previous Emergency Management space; however, there was adequate room to run the exercise. The September 17, 2002 0901 meeting with the YCC and subsequent press conferences were held in the County Commissioners Hearing Room in accordance with the YCRPP Direction and Control Section C.5.

Lighting for the PEOC was bright and made all walls and display boards clearly visible. Ventilation remained constant with no extremes to detract key players (even when the room became crowded). A small refrigerator was available with cold drinks and coffee was provided throughout the exercise for participants. The restrooms were unfortunately far from the PEOC located at the far end of the basement hallways or up one flight of stairs on the first floor. An 850KW-diesel generator was purchased to support the County Courthouse facility in preparation for a Y2K incident and provides enough emergency power for the entire courthouse. The Yakima County Courthouse facility personnel reportedly test the generator weekly.

The space provided for the PEOC is not optimal, but adequate for the job. The primary source of transmission for CNFs is a FAX machine located in the Administrative Assistant's Office located two rooms away from the PEOC, and required constant walking between rooms to monitor the machine. Other layout issues involved cramped storage for maps, ARES equipment, and other library copies of a variety of emergency plans.

According to the YCRPP, Direction and Control Section A.1., "direction and control rests with the chief elected officials." When the notification of the incident at the CGS occurred at 0835, the Sheriff's Office notified the Director of OEM. In turn, OEM immediately notified the YCC at 0837 on Monday September 17, 2002. By 1011, OEM activated the Yakima County PEOC and held the first preliminary staff meeting at 1035 to coordinate press messages, determine 24-hour staffing needs and formulate a future EAS message. (OEM is responsible for logging, numbering, maintaining and internally distributing all OEM information received or delivered.)

At 1044, the OEM Director stepped out of room to assist the YCC PIO with a TV interview. During this time, there was a smooth, temporary, transition from the Director of OEM to the PEOC Director who kept the meeting moving forward. The PEOC Director quickly located the "PEOC Director Guidebook" (located for each station in the PEOC on the main table) and began reviewing the processes and checklists.

By 1110, OEM, PIO and the Yakima County 911 Dispatch approved the first EAS message. The OEM Director, OEM Emergency Analyst, or a member of the Sheriff's Office can approve EAS messages. Despite leaving the room to handle the media, the OEM staff effectively managed the situation without losing momentum. At 1115, OEM held a meeting with available key personnel to determine needs and resources available to the County for operations. OEM clearly requested all agency Liaisons to state their status, needs/assistance from any other agency, and staffing situation. The Human Resources Liaison provided a summery of the requests at the end of the meeting assuring

that personnel would be available. Furthermore, OEM concluded this meeting with the establishment of a specific time for the next PEOC briefing.

Utilizing all available resources, at 1118, OEM directed the Washington State Patrol (WSP) Liaison to increase the information flow by reporting on his coordination with other WSP Liaisons around the area. At 1141, OEM held the second PEOC briefing in a similar fashion as the first. The YCC Chair was in attendance at this meeting; however, no requests of the OEM Director or Liaisons were made.

The PEOC is equipped with a National Warning System (NAWAS) dedicated phone (not tested), multiple 2-meter radios at different frequencies, HF frequency radio, and the Comprehensive Emergency Management Network (CEMNET) dedicated radio in contact with all other County EOCs as well as the WAEOC. The radios are all capable of operating on DC voltage (battery) during a power outage. Additionally, the PEOC has access to (16) landline telephones (9 in the PEOC and 7 more dedicated to Public Concern). There are also multiple cell phones, (3) computers with Internet connections, FAX machines(3), an AM/FM radio, and a television.

Energy Northwest's CNFs were received primarily through the PEOC FAX machine on Tuesday, September 17, 2002, at 0834, 1017, 1054, 1153, 1218, 1322, 1436 and again on Wednesday September 18, 2002, at 1221. In addition to the CNFs, Benton County Press Releases and various maps were sent over e-mail to the Yakima County Director of OEM. The one dedicated FAX line to the Sunnyside, Washington, EOC was located in the main conference room of the PEOC.

In accordance with the YCRPP Execution Section 12.a., "Provide a radio operator to the PEOC," at 0755, an ARES volunteer arrived at the PEOC and began turning on the radios. According to the OEM, a radio check is performed weekly, if not daily; however, there is no mention of a specific testing schedule in the YCRPP; however, at 0930 and 1013 CEMNET radio checks were performed.

Yakima County does not have the responsibility to provide for radiation monitoring or the distribution of KI. According to the Yakima County Radiological Protection Plan (YCRPP) Execution Section 16.a. "Washington State Department of Health will conduct radiological monitoring." However, the Director of OEM will monitor and coordinate the situation from the PEOC. Equipment and supplies available to perform this task include: a large conference table; 15 chairs; 6 white boards (two of which have electronic copying functions); 2 synchronized digital clocks; 1 Minolta copy machine model: Di450; 3 computers; 3 FAXes (one dedicated to the Sunnyside, Washington, EOC; and 2 displayed maps (one is a large color map provided by Energy Norwest that details a 50-mile EPZ radius from the CGS. The 50-mile EPZ map is disorienting at first glance because it cuts off portions of each County (including Yakima) surrounding Benton and Franklin; however, it could be corrected. The other is a "street map" composite of 14 other local jurisdictions that fall under the PEOC's control (there were many more maps available upon request including GIS, topography and flood in a storage area located within the PEOC).

Above two of the larger white boards were markings indicating the CGS ECLs of "ALERT, "Site Area", and General Emergency." Below each ECL, the CNF was posted with the original CNF receipt time in blue and all subsequent CNF updates, FAXes, Yakima County Press Releases, Emergency Alert System (EAS) broadcast times, and other PEOC internal logs were magnetically posted.

One other electronic white board was used to keep a concise status log of each CNF change. This was periodically copied and a hard copy was provided for the PEOC Liaisons and OEM Director's log.

Yakima County in accordance with the Yakima County Radiological Protection Plan and the established Extent-of-Play provided for the consequences of the ingestion pathway.

The County actions included:

1. Briefing the Yakima County Commissioners and other County Officials.
2. Activating the Yakima Valley Primary Emergency Operations Center (PEOC)
3. Issuing Emergency Broadcast Messages on EAS Station KMWX and Press Releases.
4. Obtaining a Yakima County Declaration of Emergency.
5. Providing an Agricultural Advisory within an area recommended by the State.
6. Providing the geo-political boundaries for a Food Control Zone
7. Providing traffic control points and food control points to control the Food Control Zone and transmitting this information to the State EOC.

Yakima County responded to the emergency designed for the 2002 Plume and Post Plume exercise at the CGS. The exercise was held on September 17 and 18, 2002. The CGS declared an ALERT ECL at 0804 on September 17, 2002. This information was received by FAX on CNF # 1 at 0834. The CNF FAX is sent to the PEOC from the State of Washington EOC located at Camp Murray, Washington. Yakima County is an Ingestion Pathway County and it is about 30 miles west of the CGS. Thus, the 30 minutes between declaration and receipt is considered timely. But subsequent CNFs were not received in a timely manner. (CNF No. 2 was issued 0848 and was received 0928 - 40 minutes.)

At the ALERT ECL, the Yakima County OEM Director notified the County's elected officials and the County department and office staff. The EOC staff was placed on standby and the elected officials and key department personnel were requested to meet for a briefing in the County Commissioners Hearing Room located in the basement of the County Courthouse on the corner of East "B" and 1st Street in the City of Yakima. The situation and status were explained and discussion regarding possible needs resulted. The conditions provided on CNF No. 1 at the start of the exercise did not affect Yakima County; i.e., the wind direction was from 325 degrees or almost 180 degrees away from the County; thus, no emergency actions were required or requested from the Commissioners.

The OEM Director is not a County official. The County Commissioners and the Mayors of the Counties'14 cities and towns hire the Director. The County Commissioners are the authorized decision-makers. However in the event of an emergency, a County Emergency Declaration is issued by County Commissioners; and then, because of time constraints, the Director of the OEM, or designee, is authorized to issue emergency PAs to safeguard the public.

The PEOC is activated at the SAE. The CGS declared a SAE ECL at 0935, but the notification of this action (CNF No. 3) was not received until 1017 (42 minutes had elapsed). The PEOC personnel were actually activated at 1011 because the SAE declaration was confirmed during a conversation with Benton County. The PEOC was operational at 1035. The Yakima County State Emergency Management Division (EOC) Liaison determined at 1011 from the EOC Liaison at Benton County that the SAE had been declared at 0935.

A GE was declared by CGS at 0951. A copy of CNF No. 4 provided this notification, which was received by FAX at 1054, or one hour and 3 minutes after declaration. CNF No. 5 indicating that a

radiological release had started was issued at 1105 and received 48 minutes later at 1153. Yakima County was still not directly involved since the wind direction was still 325 degrees; and Yakima County was also not involved with CNF No. 6 (issued at 1150) since it was about KI distribution. CNF No. 6 was received at 1218, or 28 minutes for transmittal.

The County issued its first News Release from the Emergency Operation Center at 1150 reporting that the PEOC had been activated and providing the PEOC telephone number to use for information. Subsequent Press Releases were issued following an "Emergency Broadcast Message" over the Emergency ALERT System (EAS) station KMWX and a Press Release was issued at 1400 containing information regarding.the Agricultural Advisory area.

At 1205 the wind shifted from 325 degrees at 3 miles per hour (mph) to 30 degrees at 8 mph. Thus, the wind was now blowing from the northeast, which would impact Yakima County. This information was provided by the CGS on CNF #7 and it was received at 1322. This notification was accomplished in 1 hour and 17 minutes.

Since the plume could now possibly affect Yakima County, the OEM Director prepared an Emergency Declaration. This declaration was signed by the three Yakima County Commissioners and distributed to the PEOC and other County staff at 1431.

This declaration provides: "That all Departments and Offices of Yakima County are authorized to enter into contracts and obligations necessary to respond...." All Departments and Offices are authorized to use emergency purchasing procedures...." "...the Director of the OEM, or designee, is authorized to issue emergency PAs...." And, a request for assistance in five specific areas is made to the Governor of the State of Washington.

CNF No. 8 was an information change to CNF No. 7. It was issued at 1343 and received at 1436 or an elapsed time of 53 minutes.

CNF No. 9 contained a wind shift from 30 degrees to 50 degrees at 8 mph. The 30-degree wind direction only affected the southeastern corner of the lower valley. However, the 50-degree wind direction would affect the southeastern corner and the Central Valley. An Agricultural Advisory was now necessary for a much larger area than the area described by the area published at 1400. CNF #9 was issued at 1508 on September 17. The Yakima PEOC received the FAX at 1221 on September 28. This transmission took 23 hours and 13 minutes. In addition, a Status report of Mission #the State of Washington Emergency Management Division produced E02-098 at 1614 on September 17. This document also contained the 50-degree wind shift information and was received at 0924 on September 18, 2002.

A 0900 briefing was provided by the PEOC controller to start Day 2 on September 18/02; and shortly thereafter at 0903, field radiation monitoring data were provided. A 500 microroentgen (uR) and 20 Ur isopleth lines were plotted on the map. It was apparent that a calculated 0.4 uR area would include Yakima County areas in the vicinity of Mabton, Grandview and Sunnyside.

The calculated 0.4 uR line, which enclosed the derived Food Control Zone (FCZ), was received from the State EOC at 1315. The PEOC then created a geo-political boundary by placing Traffic Control Points (TCP) on roads that enclosed the FCZ. The PEOC also provided one Food Control Point (FCP), which was located in Mabton. Only one FCP was selected because the area involved had very few people and most of the agriculture was wheat. Thus, not much agricultural product was

expected. This information was transmitted to the State at 1440. At 1700, the State called the PEOC and inquired about the one FCP. This conversation terminated the Counties play.

The Yakima Valley Primary Emergency Operations Center (PEOC) demonstrated by the presence of the Washington University Cooperative Extension Service and State of Washington Department of Ecology that the agricultural community had been contacted and that the Office of Emergency Management had made requests for various information. At present, information about the major Yakima Valley Crops and their harvest dates have been collected and listed. And in addition, dairy information lists have been prepared.

The cities and towns in the County are all members of the Yakima Valley Emergency Management Program; thus, information about city water supplies is available for any area of concern.

The County intends to continue to add to the database of agribusiness sites including cattle feeding operations.

The exercise play also included implementing the State of Washington Food Control Zone. Resources to establish Traffic Control Points (TCP) and the ability to determine the TCP locations were demonstrated. In addition, the ability to determine the location of the Food Control Points for the WA State Department of Agriculture and WA State Police to manage was also demonstrated. It was also necessary for Yakima County to demonstrate the coordination of the Food Control Zones with Benton County and other Counties (Counties not playing were simulated).

c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE

d. **NOT DEMONSTRATED**: NONE

e. **PRIOR ARCAs - RESOLVED:** NONE

f. **PRIOR ARCAs - UNRESOLVED:** NONE

4. OREGON STATE

4.1 Emergency Coordination Center. This facility is located at 595 Cottage Street N.E., Salem, Oregon.

a. **MET**: Criterion: 1.a.1; 1.b.1; 1.c.1; 1.d.1; 1.e.1; 2.a.1; 2.d.1; 3.e.1; 3.e.2; and 5.b.1. ARCA cleared 69-00-13-A-11. No new issues.

The Oregon Emergency Coordination Center (ECC) is located in the Oregon Emergency Management (OEM) building. The facility is well suited for use by the full emergency response team. Equipment and supplies are more than adequate, and include two computer systems displaying ECC events as well as Internet presentations pertaining to the exercise. Mobilization was efficiently executed through effective teamwork between the Oregon Office of Energy (OOE) and OEM, and was fully operational at 1011. Communications equipment available in the facility is exceptionally broad-based, with multiple redundant capabilities, through various commercial and State-owned systems. The PI function was performed in a commendable manner, and included News Releases, a Media Briefing, and an effective Public Inquiry activity.

The Oregon Emergency Response System (OERS) Duty Officer was notified at 0821, via phone call from CGS that an ALERT ECL had been declared at 0804. OERS immediately notified the OOE of this information. At 0839 a FAX was received from CGS containing the same information. The OOE Duty Officer performs verification of these notifications. At 0944, OERS was advised by CGS, via the CRASH Phone System, that a SAE ECL was declared at 0935. A FAX from CGS was received on the SAE at 1003. The GE ECL notification was received by OERS via FAX from CGS at 0959. It indicated that the GE ECL had been declared at 0951.

Following direction from OOE, OERS began notifying all applicable State agencies of a "standby status" at 0857. Based on this assessment of the situation, the OOE Technical Advisor and Director decided to activate the ECC at 0946. OERS subsequently notified these agencies at 0952 to activate the ECC. There was no pre-positioning of ECC personnel. Office of Emergency Management response staff began arriving at 0954 and the ECC was declared operational at 1011. The Oregon Department of Health and Human Services personnel deployed from Portland arrived at the ECC at 1103. While en route they were in contact with the ECC via cell phone.

Positions staffed in the ECC were the Governor's designee, OEM Directors designee, ECC Operations Manager, Morrow County Liaison, Umatilla County Liaison, Technical Advisor, Agriculture Analyst, Dose Analyst, Health Advisor, Facility Analyst, Crash Phone Communicator, Event Log Recorder, Oregon Department of Transportation, Communications Officer, and PI Officer.

The facility was effectively mobilized in accordance with the Oregon Emergency Response Plan and ECC Procedures Manual and with the Extent-of-Play Agreement. The Oregon Emergency Response Plan indicates that the WA EOC Duty Officer (page 6-1 and Figure 6-1) advises Oregon of ECL notifications. However, during this exercise, these notifications came from CGS. A Memorandum of Understanding with the State of Washington outlines the responsibility of the State of Washington to inform the State of Oregon promptly of an incident at the Columbia Generating Station. The State of Washington failed to notify Oregon during the exercise.

The ECC is spacious with ample working space for full activation of all required State agencies. The facility was set up in accordance with the Oregon Emergency Response Plan and the ECC Procedures Manual. It has more than adequate furnishings, lighting, restrooms, and air-conditioned ventilation. It also serves the State in 24-hours per day, 7-days per week capacity for non-nuclear emergencies, such as forest fires, floods, etc. The ECC has back-up power in the form of an emergency engine generator, which is tested weekly for operational effectiveness. Access to the facility is controlled via a Security Control Point, with a personnel sign-in and a badge identification system. The State expects to relocate the ECC to a new facility before the next biennial exercise.

Key personnel with leadership roles for the State of Oregon demonstrated clear, effective direction and control of the overall response effort for which they were responsible. Based on the assessment of the situation, the Nuclear Safety Division Administrator (Oregon Energy Technical Advisor and designee for Oregon Energy Director) decided at 0946 to fully activate the State ECC.

The primary positions directing and controlling the State of Oregon's response efforts included the Oregon Governor's designee, Oregon Energy Director (or designee), Oregon Energy Technical Advisor, Health Advisor-Dose Analyst (two positions/one person), and Agriculture Analyst. Oregon Energy Director participated substantively and for substantial periods of time on both days of the exercise, including providing overall direction and decision making in the ECC and presenting in the mock press conference.

These principal decision makers were updated on each crash call received by the phone operator. General briefings for the ECC were held at regular intervals (6 on the first day and 4 on the second). These briefings were thorough and informative. If scheduled briefings were skipped or delayed, the reason was announced; e.g., no new significant information since the last briefing, or waiting to receive significant new information expected in a specified time frame. Morrow and Umatilla County representatives were included in ECC briefings via speakerphone. The Counties found this very informative and useful.

Other direction and control actions performed included making PADs and coordinating with counterparts at the State of Washington, in the EOF, and in the Counties. Principal decision makers also reviewed and approved News Releases. The Oregon Energy Director (designee) also resolved differences in recommended wording between the JIC and subject mater experts.

A multiple layer of communications equipment supports the ECC. The OERS Communications Center Duty Officers provided the ECC with the capability to communicate with Federal, State, and local agencies. The primary means of communication for the ECC is the commercial telephone system, with the amateur radio network as a backup system. More than the primary and the backup system were functional at the commencement of the exercise. Communications systems available were: a 26-line OEM office phone system, an independent 14-line telephone system only used when the ECC is activated, Amateur Radio, multiple FAX machines, 2 secure telephones, 2 telephone devices for the deaf, a satellite phone, and the OERS console which provides access to all State radio networks, such as the State Fire net, the Oregon Department of Transportation network, the Search and Rescue net, and the State Emergency Services network.

The ECC had adequate equipment, maps, displays, and supplies needed to support emergency operations. Items utilized were an Event Status board, an ECC Position Staffing board, a State Highway Chart with mile markers, an Atlas of County road maps, a State Topological Chart, a 10-mile Emergency Planning Zone (EPZ) map, a 50-mile EPZ map, an Oregon State map, 3-television monitors,

14-telephones, a copier, a shredder, clocks, and 2-computer and projector systems. One computer system was used to project the ECC Activity Log, while the other system was connected to the State computer network and to the Internet. The latter system projected Web pages from the OOE and from the NRC which each contained information relevant to the exercise. Substantial other equipment (telephones, FAXes, copiers, computers, etc,) was available for use just outside the ECC in OEM office space. Of particular note was the effectiveness with which the Information Technology System was used in the ECC. It effectively and efficiently made participants aware of the status of events and changes to the developing situation

The ECC demonstrated a decision-making process, considering relevant factors and appropriate coordination, to ensure that an exposure control system, including the use of KI, was in place for Emergency Workers. In accordance with the Extent-of-Play, this criterion applied only to the responders to the Energy Northwest EOF and to the one Oregon Field Monitoring Team pre-staged at the Hermiston Safety Center.

The Oregon Energy Technical Advisor recommended at 1030 on Day 1 to the OOE responders to the EOF that they take KI. This occurred after taking into account what was known about current plant conditions, the escalating prognosis, and discussion among principal decision group members present in the ECC.

Over most of the period from about 1400 to 1500 on Day 1, there were extensive discussions regarding Emergency Worker safety for field monitoring and sampling teams operating within the expected food control area and in anticipation of the plume arrival estimated for later in the afternoon. Those involved were the Health Division Advisor/Dose Analyst, Agriculture Analyst and Energy Technical Advisor. The factors discussed included dosimetry, protective clothing, appropriate use of KI, and other exposure control measures. Scope of the discussion went well beyond the single Oregon Health Service's Field Team in the Extent-of-Play, to include how twenty or more teams would be supported. Sources and methods for obtaining additional KI and dosimetry were discussed. There also was discussion of relief for, and rotation of, teams to ensure adequate rest.

The radiological consequences for the ingestion pathway were assessed and appropriate PADs were made based on the State's planning criteria.

Reactor conditions, release path, meteorological data, plume/dose projections from MUDAC, field sampling data, planning standards, and isopleth maps were used to assess impacts and support ingestion PA decision making.

Coordination and collaboration among the Energy Director, Energy Technical Advisor, Health Advisor/Dose Analyst, Agricultural Analyst, and Department of Transportation representative resulted in ingestion pathway PADs being made that included:

- Halting uncovered agricultural shipments (trucks) from Washington at four border crossings.
- Precautionary agricultural advisory for northern Morrow and Umatilla Counties (News Release No. 5).
- Milk Control Advisory for large dairy producers and processors (News Release No. 6). The local Agricultural Extension Agent identified the pre-scripted Milk Control Advisory for distribution.

- Issuance of a general agricultural advisory, and the release and dissemination of associated preprinted materials (tri-fold brochure) (News Release No. 8).
- A ban on field burning, disking and tilling. (News Release No. 9).
- Geo-political food control boundaries established based on the 0.4 microR/hr isopleth and in consultation with Washington State, Washington Counties, and the Oregon Counties (Morrow and Umatilla) (News Release No. 10).

The Health Advisor/Dose Analyst directed field teams arriving prior to the plume to conduct air monitoring and collect samples of open water and vegetation to establish current background conditions at pre-established sampling points. He then continuously developed and updated sampling plans for Field Monitoring Teams as conditions changed and new information was received (e.g., wind shifts, dose projections, and monitoring results). To ensure adequate monitoring and sampling could take place to support decision making, additional field teams were requested from the NRC and EPA to augment State teams. Data identifying open water sources and historical background monitoring results were demonstrated.

The Oregon Agricultural Analyst identified large dairy producers and processors from established lists to assess for impacts. Some agricultural production from the vicinity of CGS in Washington State is processed in Oregon. The Agriculture Analyst contacted his counterpart in Washington to obtain a listing of agricultural products currently being harvested. The decision was made to advise processing plants in Oregon that they should instruct their local producers in both States to suspend harvesting or shipping products originating within potentially affected areas.

The Method of numbering plume-modeling FAXes (QEDPS printouts) was a concern. The printouts are numbered by hand writing in the top margin of the page. When sent through the EOF Telecopier, the numbering was cut off on most transmissions. Oregon ECC decision makers noticed that this could cause uncertainty regarding which version represented the most current data and requested MUDAC adjust it's methods so that the numbering is not obscured.

The State of Oregon demonstrated the availability and appropriate use of adequate information regarding water, food supplies, milk and agricultural production within the ingestion pathway EPZ to support implementation of PAs.

The Agricultural Analyst produced lists of producers, processing plants, and seasonal crops in the fields. Similar information was also obtained from his Washington State counterpart for comparison and cross-referencing. The local Agricultural Extension agent was contacted for additional local knowledge of gardening and farming practices. The Health Advisor identified open water sources and sampling histories for air, water, and vegetation sampling.

Appropriate measures, strategies and pre-printed instructional materials were developed for implementing PA decisions for contaminated water, food products, milk, and agricultural production.

The PI Officer, Agricultural Analyst, Health Advisor and Energy Technical Advisor collaborated to utilize the most effective and credible means available to disseminate information and instructions.

The local Agricultural Extension Agent notified large dairy producers and processors. Some agricultural production from the vicinity of CGS in Washington State is processed in Oregon. The Oregon Agriculture Analyst contacted his counterpart in Washington to obtain a listing of agricultural products currently being harvested. Processing plants in Oregon were advised to instruct their local pro-

ducers in both States to suspend harvesting and shipping agricultural products originating from the affected areas. County EOCs were consulted regarding common high volume facilities and locations where printed and other information could be disseminated.

These actions supported communicating with the general public and specific target audiences on ingestion pathway PA decisions that included:

- Halting uncovered agricultural shipments (trucks) from Washington at four border crossings.
- Precautionary agricultural advisory for northern Morrow and Umatilla Counties (News Release No. 5).
- Milk Control Advisory for large dairy producers and processors (News Release No. 6). The pre-scripted Milk Control Advisory was FAXed to the local agricultural extension agent for distribution.
- Issuance of a general agricultural advisory, and the release and dissemination of associated preprinted materials (tri-fold brochure) (News Release No. 8).
- A ban on field burning, disking and tilling (News Release No. 9).
- Geopolitical food control boundaries established based on the 0.4 microR/hr isopleth and in consultation with Washington State, Washington Counties, and the Oregon Counties (Morrow and Umatilla) (News Release No. 10).

The Oregon Department of Transportation representative identified and offered the Highway Advisory Radio System (HARS) and highway reader boards throughout the Boardman-Irrigon-Umatilla-Stanfield area as an additional means of communicating to truck and passenger car drivers transiting the affected area. Reader boards and HARS signs directed drivers to tune to the local HARS frequency on their AM-FM radio for a recorded message. The PIO devised recorded message scripts on ingestion PA measures from pre-scripted News Releases and other materials.

The Media Center for ECC is located in the Employment Division auditorium at 875 Union St. NE, Salem, Ore. For the exercise, one News Conference was conducted on September 18 in accordance with the Extent-of-Play Agreement. It was held in the OOE Building adjacent to the ECC. The Public Inquiry (Rumor Control) function was conducted just outside the ECC in OEM spaces.

The PIO coordinated all emergency information (News Releases, Public Inquiry information sheets, etc.) with all appropriate State agency staff in the ECC. This individual also managed the Public Inquiry function through an Assistant PIO and a Telephone Center (Rumor Control) Supervisor.

In accordance with the State Emergency Response Plan, the ECC Procedures Manual, and the Extent-of-Play Agreement, Public Inquiry Staff did not demonstrate non-English language capability. The ECC Procedures Manual contains a position description for a Spanish-Speaking operator for Public Inquiry, and adequate Spanish-Speaking Staff is available if needed in an actual emergency.

During the exercise, 10 News Releases were developed. They contained timely and accurate information. The Media Spokesperson (PIO) moderated the News Conference, which was held at 1530. ECC participants were the OOE Director, OOE Technical Advisor, Health Services Division representative, State Department of Agriculture representative, and the PIO. Media Information Kits and News Releases were distributed to the media. Included was a tri-fold brochure in both English and Spanish. All information disseminated was accurate. ECC participants provided an overview in their area of expertise and a question and answer session was conducted. The session was effectively organized and managed.

The PIO, the Assistant PIO, and the Staff Supervisor provided accurate and up-to-date information on the developing situation to the Public Inquiry Operators. Callers were referred to appropriate information sources, including the OOE web site. This web site is an innovative medium to provide the Public with emergency information. It contains advisories, such as agriculture advisories, highway closures, traffic control points, food control points, etc. Also the site has all emergency News Releases, and maps and images appropriate to the incident. There is also a link to the NRC web page on Frequently Asked Questions.

The Public Inquiry Staff identified a developing trend pertaining to Potassium Iodide (KI). They accurately and efficiently identified the trend and notified the PIO. The following actions were very effective in countering the trend: development of a News Release distributed to the Media and to all affected Counties for more local distribution, (Police, Fire, Public Works, truck stops, etc.); and the development of a fact sheet that the Governor used (simulated) to address the rumor and to provide factual information to the Public, via a Press Conference. The fact sheet was also sent via the Internet to 250 news outlets in the State (simulated). A similar rumor pertaining to terrorism was also effectively addressed. For these reasons, corrective actions have been implemented and demonstrated; therefore ARCA 69-00-13-A-11 has been resolved.

The ECC Technical Staff demonstrated the effective analysis of post-plume data and the development and rapid dissemination of ingestion pathway, food control area, geo-political boundaries, and food control point information and maps to pre-determined individuals and businesses. The Public Inquiry Staff demonstrated knowledge, via interview, and the capability to address post-plume issues, such as food control areas, geopolitical boundaries, food safety, contaminated food, water supply, agriculture advisories, embargoes, etc.

b. **DEFICIENCY**: NONE

c. **AREAS REQUIRING CORRECTIVE ACTION**: NONE

d. **NOT DEMONSTRATED**: NONE

e. **PRIOR ARCAs - RESOLVED**:

Issue: 69-00-13-A-11

Description: Identified rumor trend was not addressed.

Corrective Action Demonstrated: The Public Inquiry Staff identified a developing trend pertaining to KI. They accurately and efficiently identified the trend and notified the PIO. News Release No. 4 at 1305 was distributed to the Media and to all affected Counties for more local distribution (Police, Fire, Public works, truck stops, etc.). Corrective actions were implemented and demonstrated.

f. **PRIOR ARCAs - UNRESOLVED**: 69-99-12-A-02 – To be demonstrated in the July 2003 Ingestion Drill.

4.2 Radiological Field Monitoring Team - Oregon

a. **MET:** 1.d.1, 3.a.1, 3.b.1, 4.a.1, 4.a.3, and 4.b.1. Cleared ARCA 69-99-05-A-01. No new issues.

Personnel representing the Oregon Field Monitoring Team (OFMT) and the Oregon Department of Agriculture (ODA) demonstrated their ability to correctly respond to a radiological emergency. All criteria were correctly demonstrated and there were no identified issues.

The OFMT is equipped with cellular phones and a satellite phone. The cellular phones are the primary means of communications and the satellite phone is the backup system. Each member of the three-man team has their own cell phone and the Oregon Health Advisor in the Oregon ECC knows the phone numbers. Both methods of communication were used during the exercise and there were no breakdowns in the communication systems.

At 1140 the OFMT and a representative from the ODA were instructed to leave the Hermiston Safety Center and proceed to a dairy to collect a milk sample. The ODA representative collected a one-gallon milk sample at the Columbia River Dairy, which is 59 miles from the CGS. The representative followed a modified version of the Pasteurized Milk Ordinance (PMO) Procedure for Milk Sampling. The sample container was correctly labeled prior to collecting the sample. The labeled sample was then placed in an outer shipping container and a chain-of-custody form was completed and attached to the shipping container. It was suggested the procedure be reviewed by the Oregon Radiation Counting Laboratory to ensure the volume identified is the correct volume and to review the requirements for adding a preservative to the milk. At 1345 the collection of the first milk sample was completed.

At 1345 the OFMT was directed to proceed to two locations to collect water and vegetation samples. The first sample location was Irrigon Park in Umitilla, Oregon, which is 40 miles from the CGS. Prior to collecting the sample, ambient radiation readings were obtained using the Ludlum microR meter to ensure they were not in an area of high radiation as required by their procedure. The vegetation sample was a grass sample and the sample was collected from an area of approximately one square meter in an open area and not under trees. The sample collected was approximately one kilogram (2.2 pounds) and the grass sample was placed in a large plastic bag. The air was removed from the bag and the bag correctly labeled and a chain-of-custody form was completed and attached to the sample. The sample was collected in accordance with the procedure on page 7 in Tab B of the Oregon Health Division Procedure dated April 2002. The shears used to cut the grass was decontaminated using alcohol wipes and then bagged and was readied for cutting the second grass sample.

A 500-ml container was labeled and a water sample was collected at the marina. The sample was collected in accordance with the procedure on page 8 in Tab B of the Oregon Health Division Procedure dated April 2002. The sample was bagged and a chain-of-custody form was completed and attached to the sample. At 1530, the team started for the second sampling location to collect the next set of samples but was instructed to terminate the demonstration.

The OFMT is not issued KI, as there are no KI decision making activities for the OFMT since their activities are limited to Oregon, which is beyond the 10-mile EPZ. On page 13 in Tab B of Oregon Health Division Procedures, dated April 2002, the team will be provided KI by Washington State if the team is requested to enter Washington.

The OFMT inventoried their equipment to ensure it was in agreement with that identified in Table B-1 of Tab B in the Oregon Health Division Procedure dated April 2002. The equipment was inventoried and tested before leaving the Hermiston Safety Center. The hand-held instruments were tested in accordance with the instructions on page 2 Tab B that requires a battery check and a reading on the lowest scale to determine the background level. The procedure does not require source checks to test operability of the instruments. The hand-held instruments for ambient radiation measurements included: a Ludlum Model 12 with a pancake probe with range of x1, x10, x100, and x1000 for the 500-cpm scale; a PIC-6A with a beta shield with range of 1 mR/hr to 1000 R/hr.; a Ludlum Model 19 micro R meter with range of 25, 250, and 50, 500 and 5000 for the 50 microR/hr scale. All instruments are calibrated annually and were last calibrated on August 6, 2002.

The footnote on page 13 of Tab B references Tab G for the inventory of the air sampling equipment. The copy carried by the Field Team did not have Tab G. The air sampling equipment included a Ludlum Model 2000 scaler with a NaI probe. The calibration date was August 6, 2002, and the efficiency for the probe was 14.77%. The air pump was a Radeco Model 809C and was calibrated on November 7, 2001, and is due for calibration on November 7, 2002. The inventory included silver zeolite cartridges to be used to collect the air sample during a real event. In accordance with the procedure on page 4 in Tab B, the air pump is to be operated at a minimum flow of 1 cfm for a minimum of 2 minutes in a high radiation area (more than 100 mR/hr), or a maximum of 10 minutes if not in the plume.

The OFMT used the Ludlum Model 19 microR meter to take ambient readings while en route to their sampling locations as prescribed by their procedures. Since the OFMT was far outside the 10-mile EPZ all readings were background. The team was instructed to proceed to two locations and collect air samples. At the first air sampling location the team demonstrated the ambient measurement technique used to determine the plume boundary that is described in paragraph 3.B. (1) on page 3 of Tab B.

At 1415, the team arrived at Irrigon Park in Umitilla, Oregon, which is 40 miles from the Columbia Generating Station, to demonstrate collecting the first air sample. The cartridge and pre-filter were correctly loaded into the sample holder of the air pump and the pump was run for 10 minutes at a flow of 1.1 cfm. The sampling was performed in accordance with the procedure on page 5 of Tab B in the Oregon Health Division Procedures dated April 2002. After collecting the air sample the team proceeded to analyze the cartridge and count the pre-filter. The team members were aware they must move to an area reading background before attempting to analyze the samples. The team members were also aware that the interior of the vehicle might be contaminated which may require the samples to be analyzed a distance from the vehicle. The samples were analyzed correctly using the scaler with the NaI probe and the correct probe efficiency was used in the hand calculations for the cartridge. The samples were individually bagged, correctly labeled, and a chain-of-custody form was completed and attached to the samples.

The team members were aware the sample container must be decontaminated before collecting more samples. The container was decontaminated using alcohol wipes and the container was loaded with another pre-filter and cartridge in preparation for collection of the next sample. At 1530, the team started for the second sampling location to collect the next set of samples but was instructed to terminate the demonstration.

b. **DEFICIENCY:** NONE

c. **AREAS REQUIRING CORRECTIVE ACTION**: NONE

d. **NOT DEMONSTRATED**: NONE

e. **PRIOR ARCAs - RESOLVED**:

Issue: 69-99-05-A-01

Description: Direct Reading Dosimeters (DRDs) were not issued to personnel assigned to the Food Control Point as required by the Oregon Department of Agriculture procedures. The Procedures state: "All personnel staffing a Food Control Point shall have an Emergency Worker Kit." The Food Control Point Checklist States: "Every half-hour personnel must check their pocket dosimeter and record the reading on the Dose Control Form." There is no place to enter a DRD reading on the Dose Control Form. In addition, the accumulated dose could not be determined without a DRD.

Corrective Action: The issuance of the DRD to the ODA with instructions to read the DRD every 30 minutes and to record the readings on the Dose Control Form correctly addresses this ARCA.

f. **PRIOR ARCAs - UNRESOLVED:** NONE

APPENDIX 1
ACRONYMS AND ABBREVIATIONS

ACP	Access Control Point
AMA	American Medical Association
ANI	American Nuclear Insurers
ARC	American Red Cross
ARCA	Area Requiring Corrective Action
ARES	Amateur Radio Emergency Services
CCC	Congregate Care Center
CDE	Committed Dose Equivalent
CFR	Code of Federal Regulations
CGS	Columbia Generating Station
CNF	Classification Notification Form
CPM	Counts Per Minute
CRASH	dedicated emergency telephone line
DHHS	U.S. Department of Health and Human Services
DIL	Derived Intervention Level
DOE-RL	U.S. Department of Energy – Richland Office
DOH-DRP	Department of Health/Division of Radiation Protection
DOT	U.S. Department of Transportation
DRD	Direct Reading Dosimeter
DTL	Deputy Team Leader
EAL	Emergency Action Level
EAS	Emergency ALERT System
EBS	Emergency Broadcast System
ECC	Emergency Coordinating Center
ECL	Emergency Classification Level
EDPS	Emergency Dose Projection System
EOC	Emergency Operations Center
EOF	Emergency Operations Facility
EPA	U.S. Environmental Protection Agency
EPZ	Emergency Planning Zone
ETA	Estimated Time of Arrival
ETE	Evacuation Time Estimate
EW	Emergency Worker
EWAC	Emergency Worker Assistance Center

FAA	Federal Aviation Agency
FCC	Federal Communications Commission
FDA	U.S. Food and Drug Administration
FEMA	Federal Emergency Management Agency
FR	Federal Register
FRMAC	Federal Radiological Monitoring and Assessment Center
FTC	Field Team Coordinator
ft/min	feet per minute
ft^3/min	cubic feet per minute
GE	General Emergency
GM	Guidance Memorandum
HEAR	Hospital Emergency Ambulance Radio
HP	Health Physicist
HPT	Health Physics Technician
ICF	ICF Contractor (FEMA Evaluator Contractor source)
IP	Implementing Procedure
JIC	Joint Information Center
JPIC	Joint Public Information Center
JR ROTC	Junior Reserve Officer Training Center
KI	Potassium Iodide
MDL	Minimum Detection Level
mR	milliroentgen
mR/h	milliroentgen per hour
MUDAC	Meteorological and United Dose Assessment Center
NOAA	National Oceanic and Atmospheric Administration
NOUE	Notification of Unusual Event
NRC	U.S. Nuclear Regulatory Commission
NUREG-0654	NUREG-0654/FEMA-REP-1, Rev. 1, *"Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980*
NWS	National Weather Service

OEM	Office of Emergency Management
OHD	Oregon Health Division
OOE	Oregon Office of Energy
OR	State of Oregon
ORO	Offsite Response Organization
PA	Protective Action
PAD	PA Decision
PAG	PA Guide
PAO	Public Affairs Official
PAR	PA Recommendation
PIO	Public Information Officer
QEDPS	Quick Emergency Dose Projection System
R	Roentgen
RACES	Radio Amateur Civil Emergency Service
RC	Reception Center
REA	Radioactive Emergency Area
REM	Roentgen Equivalent Man
REP	Radiological Emergency Preparedness
RERP	Radiological Emergency Response Plan
R/h	Roentgen(s) per hour
RO	Radiological Officer
RRAC	Regional Radiological Assistance Committee
RRAC AC	Regional Radiological Assistance Committee – Advisory Council
SAE	Site Area Emergency
SEOC	State Emergency Operations Center
SITREP	Situation Report
TCP	Traffic Control Point
TDD	Telecommunications Device for the Deaf
TL	Team Leader
TLD	Thermoluminescent Dosimeter
TSC	Technical Support Center
UHF	Ultra High Frequency
USCG	U.S. Coast Guard
USDA	U.S. Department of Agriculture
USDOE	U.S. Department of Energy
USDOT	U.S. Department of Transportation
VHF	Very High Frequency
WA	State of Washington
WA EOC	Washington State Emergency Operations Center
WAEMD	Washington State Emergency Management Division
WSDA	Washington State Department of Agriculture
WEIC	Washington Emergency Information Center
WP	Warning Point

APPENDIX 2

EXERCISE EVALUATORS AND TEAM LEADERS

The following is a list of the personnel who evaluated the *Columbia Generating Station* exercise and out-of-sequence drill on July and the week of *September 17- 21, 2002.* The Team Leaders have the letters "TL" after their names. Deputy Team Leaders are indicated by "DTL." The organization, which each evaluator represents, is indicated by the following abbreviations:

DOT	- Department of Transportation
FDA	- Food and Drug Administration (U.S. Department of Health and Human Services)
FEMA	- Federal Emergency Management Agency
ICF	- ICF Consulting
NRC	- U.S. Nuclear Regulatory Commission
USDA	- U.S. Department of Agriculture

EVALUATION SITE	EVALUATOR	ORGANIZATION
WASHINGTON STATE		
Emergency Operations Center (Camp Murray, WA)	Richard Echavarria (TL)	FEMA Region IX
	Hollis Berry (DTL)	ICF
	Bob Swartz	FEMA Region I
	Jerry Leitch	EPA
	Kathleen Barrett	USDA
WA State Media/Public Inquiry	Terry Blackmon	ICF
Emergency Operations Facility		
MUDAC	Daryl Thome (TL)	ICF
	Frank Bold (DTL)	ICF
	Ernie Boaze	ICF
State & Local Government	Andy Hendrickson	FEMA Region X
Joint Information Center	Deborah Bell (TL)	FEMA Region I
	Kathy Burke	FEMA Region X
	Cecilia Hicks	FEMA Region X
WA Radiological Field Monitoring Teams		
Team No. 1	Lyle Slagle (TL)	ICF
Team No. 2	Mike Hammond (TL)	FEMA Region X

EVALUATION SITE	EVALUATOR	ORGANIZATION
BENTON COUNTY		
Emergency Operations Center	Dan McElhinney (TL)	FEMA Region I
	Jane Young (DTL)	FEMA Region VII
	John Hall	FDA
	Dolph Diemont	DOT
	Wanda Gaudet	FEMA Region I
FRANKLIN COUNTY		
Emergency Operations Center	Joe Keller (TL)	ICF
	Norm Valentine	FEMA Region VII
	Terry Knight	FEMA
	Ken Miles	FDA
	Lauren Record	FEMA Region I
	Bill Maier	NRC Region IV
Out of Sequence – Interviews)		
Access/Traffic Control & EOC		
Franklin Co. Dispatch & EAS Radio Station		
Schools (One in each District)		
YAKIMA COUNTY EOC	Dave Duncan (TL)	ICF
	Ryan Ike	FEMA Region X
WALLA WALLA COUNTY EOC	Lynn Mariano (TL)	ICF
GRANT COUNTY EOC	Bob Rospenda (TL)	ICF
STATE OF OREGON ECC	Fred Bretsch (TL)	ICF
	Henry Christiansen	ICF
Field Monitoring Team	Bill Serrano (TL)	ICF
MORROW COUNTY EOC	Not participating	
UMATILLA COUNTY EOC	Not participating	

MISCELLANEOUS 2002 DRILLS (Out of Sequence, etc.)

EVALUATION SITE	EVALUATOR	ORGANIZATION
WA DOA Milk Sampling Drill **July 25, 2002**	Joe Keller (TL)	ICF
BENTON COUNTY/WA DOA **Food Control Drill** **September 18, 2002 – PM**	Joe Keller (TL)	ICF
BENTON COUNTY MS-1 DRILL **Kadlec Medical Center** **Richland Fire Department** **September 18, 2002.**	F. Bold (TL) Lyle Slagle	ICF ICF
FRANKLIN COUNTY Emergency Worker/Assistance Center (EWAC) **Columbia Basin College EWAC** **September 21, 2002**		
Evacuee/EW Monitoring	Joe Keller (TL) Daryl Thome Dave Duncan Terry Knight	ICF ICF ICF FEMA Region X
Decontamination Monitoring	Frank Bold Lyle Slagle	ICF ICF
ARC Shelter	Jane Young Cecilia Hicks	FEMA Region V11 FEMA Region X
Coordinator's Office	Lynn Mariano	ICF

APPENDIX 3

EXERCISE EVALUATION AREA CRITERIA AND EXTENT-OF-PLAY AGREEMENT

This appendix lists the exercise evaluation area criteria that were scheduled for demonstration in the Columbia Generating Station exercise on September 17 and 18, 2002, and the Extent-of-Play Agreement approved by FEMA Region X on July 18, 2002.

The exercise evaluation area criteria, contained in the "Radiological Emergency Preparedness Exercise New Methodology" represent a functional translation of the planning standards and evaluation criteria of NUREG-0654/FEMA-REP-1, Rev. 1, "Criteria for the Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980.

Because the evaluation area criteria are intended for use at all nuclear power plant sites, and because of variations among offsite plans and procedures, an Extent-of-Play Agreement is prepared by the State and approved by FEMA to provide evaluators with guidance on expected actual demonstration of the evaluation area criteria.

A. Exercise Evaluation Area Criteria: Listed below are the specific radiological emergency preparedness evaluation area criteria with Extent-of-Play scheduled for demonstration during this exercise.

1. EVALUATION AREA 1: EMERGENCY OPERATIONS MANAGEMENT

Sub-element 1.a - Mobilization

Criterion 1.a.1: OROs use effective procedures to ALERT, notify and mobilize emergency personnel and activate facilities in a timely manner. (NUREG-0654, A.4, D.3, 4, E.1, 2, H.4)

Sub-element 1.b - Facilities

Criterion 1.b.1: Facilities are sufficient to support the emergency response. (NUREG-0654, H)

Sub-element 1.c - Direction and Control

Criterion 1.c.1: Key personnel with leadership roles for the ORO provide direction and control to that part of the overall response effort for which they are responsible. (NUREG-0654, A.1.d., 2.a., b.)

Sub-element 1.d - Communications Equipment

Criterion 1.d.1: At least two communication systems are available, at least one operates properly, and communication links are established and maintained with appropriate locations. Communications capabilities are managed in support of emergency operations. (NUREG-0654, F.1., 2.)

Sub-element 1.e - Equipment and Supplies to Support Operations

Criterion 1.e.1: Equipment, maps, displays, dosimetry, potassium iodide (KI), and other supplies are sufficient to support emergency operations. (NUREG-0654, H., J.10.a.b.e.f.j.k., 11, K.3.a.)

2. EVALUATION AREA 2: PA DECISION-MAKING

Sub-element 2.a - Emergency Worker Exposure Control

Criterion 2.a.1: OROs use a decision-making process, considering relevant factors and appropriate coordination, to ensure that an exposure control system, including the use of KI, is in place for Emergency Workers including provisions to authorize radiation exposure in excess of administrative limits or PA guides. (NUREG-0654, K.4.)

Sub-element 2.b - Radiological Assessment and PA Recommendations and Decisions for the Plume of the Emergency

Criterion 2.b.1: Appropriate PA recommendations are based on available information on plant conditions, field monitoring data, and licensee and ORO dose projections, as well as knowledge of onsite and offsite environmental conditions. (NUREG-0654, I.8., 10., 11. Supplement 4.)

Criterion 2.b.2: A decision-making process involving consideration of appropriate factors and necessary coordination is used to make PA decisions (PADs) for the general public (including the recommendation for the use of KI, if ORO policy). (NUREG-0654, J.9., 10.m.)

Sub-element 2.c - PA Decisions Consideration for the Protection of Special Populations

Criterion 2.c.1: PA decisions are made, as appropriate, for special population groups. (NUREG-0654, J.9., 10.c.d.e.g.)

Sub-element 2.d - Radiological Assessment and Decision-Making for the Ingestion Exposure Pathway

Criterion 2.d.1: Radiological consequences for the ingestion pathway are assessed and appropriate PA decisions are made based on the ORO planning evaluation area criteria. (NUREG-0654, I.8., J.11)

Sub-element 2.e - Radiological Assessment and Decision-Making Concerning Relocation, Re-entry, and Return

Criterion 2.e.1: Timely re-location, re-entry and return decisions are made and coordinated as appropriate, based on assessments of the radiological conditions and evaluation area criteria in the ORO's plan and/or procedures. (NUREG-0654, A.1.b., I.10., M)

3. EVALUATION AREA 3: PA IMPLEMENTATION

Sub-element 3.a - Implementation of Emergency Worker Exposure Control

Criterion 3.a.1: The OROs issue appropriate dosimetry and procedures, and manage radiological exposure to Emergency Workers in accordance with the plans and procedures. Emergency Workers periodically and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart. (NUREG-0654, K.3.)

Sub-element 3.b - Implementation of KI Decision

Criterion 3.b.1: KI and appropriate instructions are available should a decision to recommend use of KI be made. Appropriate record keeping of the administration of KI for Emergency Workers and institutionalized individuals (not the general public) is maintained. (NUREG-0654, E.7., J.10. e., f.)

Sub-element 3.c - Implementation of PAs for Special Populations
Criterion 3.c.1: PA decisions are implemented for special population groups within areas subject to PAs. (NUREG-0654, E.7., J.9, 10.c.d.e.g.)

Criterion 3.c.2: OROs/School officials decide upon and implement PAs for schools. (NUREG-0654, J.10.c., d., g.)

Sub-element 3.d - Implementation of Traffic and Access Control

Criterion 3.d.1: Appropriate traffic and access control is established. Accurate instructions are provided to traffic and access control personnel. (NUREG-0654, J.10.g., j., k.)

Criterion 3.d.2: Impediments to evacuation are identified and resolved. (NUREG-0654, J.10., k.)

Sub-element 3.e - Implementation of Ingestion Pathway Decisions

Criterion 3.e.1: The ORO demonstrates the availability and appropriate use of adequate information regarding water, food supplies, milk, and agricultural production within the ingestion exposure pathway emergency planning zone for implementation of PAs. (NUREG-0654, J.9., 11.)

Criterion 3.e.2: Appropriate measures, strategies, and pre-printed Instructional material are developed for implementing PA decisions for contaminated water, food products, milk, and agricultural production. (NUREG-0654, E.5., 7., J.9, 11.)

Sub-element 3.f - Implementation of Relocation, Re-entry, and Return

Criterion 3.f.1: Decisions regarding controlled re-entry of Emergency Workers and relocation and return of the public are coordinated with appropriate organizations and implemented. (NUREG-0654, M.1., 3.)

4. EVALUATION AREA 4: FIELD MEASUREMENT AND ANALYSIS

Sub-element 4.a - Plume Phase Field measurements and Analyses

Criterion 4.a.1: The field teams are equipped to perform field measurements of direct radiation exposure (cloud and ground shine) and to sample airborne radioiodine and particulates. (NUREG-0654, H.10, I.8., 9., 11.)

Criterion 4.a.2: Field teams are managed to obtain sufficient information to help characterize the release and to control radiation exposure. (NUREG-0654, I.8., 11., J.10.a.)

Criterion 4.a.3: Ambient radiation measurements are made and recorded at appropriate locations, and radioiodine and particulate sample are collected. Teams will move to an appropriate low background location to determine whether any significant (as specified in the plan and/or procedures) amount of radioactivity has been collected on the sampling media. (NUREG-0654, I.8., 9., 11.)

Sub-element 4.b - Post Plume Phase Field Measurements and Sampling

Criterion 4.b.1: The field teams demonstrate the capability to make appropriate measurements and to collect appropriate samples (e.g., food crops, milk, water, vegetation, and soil) to support adequate assessments and PA decision-making. (NUREG-0654, I.8., J.11)

Sub-element 4.c - Laboratory Operations

Criterion 4.c.1: The laboratory is capable of performing required radiological analysis to support PA decisions. (NUREG-0654, C.3., I.8., 9., J.11)

5. EVALUATION AREA 5: EMERGENCY NOTIFICATION & PUBLIC INFORMATION

Sub-element 5.a - Activation of the Prompt Alert and Notification System

Criterion 5.a.1: Activities associated with primary Alert and Notification of the public is completed in a timely manner following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. The initial instructional message to the public must include as a minimum: 1) identification of the State or local government organization and the official with the authority for providing the ALERT signal and instructional message; 2) identification of the commercial nuclear power plant and a Statement that an emergency situation exists at the plant; 3) reference to REP-specific emergency information (e.g., brochures and information in telephone books) for use by the general public during an emergency; and 4) a closing Statement asking the affected and potentially affected population to stay tuned for additional information. (10 CFR Part 50, Appendix E & NUREG-0654, E. 1., 4., 5., 6., 7.)

Criterion 5.a.2: Activities associated with primary Alert and Notification of the public are completed within 15 minutes of verified notification from the utility of an emergency situation requiring urgent action (fast-breaking situation). The initial instructional message to the public must include as a minimum: 1) identification of the State or local government organization and the official with the authority for providing the ALERT and message; 2) identification of the commercial nuclear power plant and a Statement that an emergency situation exists at the plant; 3) reference to REP-specific emergency information (e.g., brochures and information in telephone books) for use by the general public during an emergency; and 4) a closing Statement asking the affected and potentially affected population to stay tuned for additional information. In addition, the ORO must demonstrate the capability to contact, in a timely manner, an authorized offsite decision-maker relative to the nature and severity of the event, in accordance with plans and procedures. (10 CFR Part 50, Appendix E & NUREG-0654, E. 1., 3., 5., 6., 7.)

Criterion 5.a.3: Activities associated with FEMA approved exception areas (where applicable) are completed within 45 minutes following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. Backup Alert and Notification of the public is completed within 45 minutes following the detection by the ORO of a failure of the primary Alert and Notification system. (NUREG-0654, E.6., Appendix 3.B.2.c)

Sub-element 5.b - Emergency Information and Instructions for the Public and the Media

Criterion 5.b.1: OROs provide accurate emergency information and instructions to the public and the news media in a timely manner. (NUREG-0654, E.5., 7., G.3.a., G.4, a., b., c.)

6. EVALUATION AREA 6: SUPPORT OPERATION/FACILITIES

Sub-element 6.a - Monitoring and Decontamination of Evacuees and Emergency Workers, and Registration of Evacuees

Criterion 6.a.1: The reception center/Emergency Worker facility has appropriate space, adequate resources, and trained personnel to provide monitoring, decontamination, and registration of evacuees and/or Emergency Workers. (NUREG-0654, J.10.h.; K.5.b.)

Sub-element 6.b - Monitoring and Decontamination of Emergency Worker Equipment

Criterion 6.b.1: The facility/ORO has adequate procedures and resources for the accomplishment of monitoring and decontamination of Emergency Worker equipment including vehicles. (NUREG-0654, K.5.b)

Sub-element 6.c - Temporary Care of Evacuees

Criterion 6.c.1: Managers of congregate care facilities demonstrate that the centers have resources to provide services and accommodations consistent with American Red Cross planning guidelines. Managers demonstrate the procedures to assure that evacuees have been monitored for contamination and have been decontaminated as appropriate prior to entering congregate care facilities. (NUREG-0654, J.10.h., 12.)

Sub-element 6.d - Transportation and Treatment of Contaminated Injured Individuals

Criterion 6.d.1: The facility/ORO has the appropriate space, adequate resources, and trained personnel to provide transport, monitoring, decontamination, and medical services to contaminated injured individuals. (NUREG-0654, F.2, H.10., K.5.a.b., L.1., 4.)

B. Extent-of-Play Agreement

The Extent-of-Play Agreements on the following pages were submitted by the States of Washington and Oregon and was approved by FEMA Region X on July 18, 2002, in preparation for the CGS exercise on September 17 and 18, 2002. The Extent-of-Play Agreements include any significant modification or change in the level of demonstration of each evaluation area criterion listed in Subsection A of this appendix.

EVALUATION AREA 1: EMERGENCY OPERATIONS MANAGEMENT

Sub-element 1.a – Mobilization

Criterion 1.a.1: OROs use effective procedures to ALERT, notify, and mobilize emergency personnel and activate facilities in a timely manner. (NUREG-0654, A.4, D.3, 4, E.1, 2, H.4)

EXTENT-OF-PLAY

Responsible OROs should demonstrate the capability to receive notification of an emergency situation from the licensee, verify the notification, and contact, ALERT, and mobilize key emergency personnel in a timely manner. Responsible OROs should demonstrate the activation of facilities for immediate use by mobilized personnel when they arrive to begin emergency operations. Activation of facilities should be completed in accordance with the plan and/or procedures. Pre-positioning of emergency personnel is appropriate, in accordance with the Extent-of-Play Agreement, at those facilities located beyond a normal commuting distance from the individual's duty location or residence. Further, pre-positioning of staff for out-of-sequence demonstrations are appropriate in accordance with the Extent-of-Play Agreement.
All activities must be based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless noted above or otherwise indicated in the Extent-of-Play Agreement.

Region X Extent-of-Play:

Benton County: Limitations: Benton County exercise play limited to the Benton County EOC, ENW JIC, and EOF. Out of Sequence demonstrations will include a Food Control Point and a Contaminated Injured Drill. Refer to exercise staffing document.

Demonstration of security and EOC access control will terminate upon EOC being declared operational.

Franklin County: Limitations: Activation of Franklin County EOC, JIC and EOF positions will include field demonstrations by selected County agencies (Pasco Police Department, Pasco School District {Transportation Section and Edwin Markham Elementary School}, and the Franklin County Sheriff's Office). Field demonstrations will be staffed and evaluated consecutively in order to maximize use of evaluators and minimize time requirements on agencies conducting field demonstrations.

Demonstration of security and EOC access control will terminate upon EOC being declared operational.

Grant County: Limitations: Pre-positioning of emergency personnel may occur since experience with exercises in the past the scenario event usually starts when DEM staff is at work in the office; other staff will be responding from their duty station. The PIO may also be pre-positioned in place of making a response from the EOC to the JIC, but will delay reporting to the JIC until one hour after initial notification.

Walla Walla County: Limitations: Walla Walla County exercise play will be limited to the EOC.

Yakima County: Limitations: Yakima Valley Office of Emergency Management will utilize e-mail, telephone, FAX and radio to accomplish this criterion.

WSDA: Limitations: WSDA personnel will respond to the Benton County EOC to fill the WSDA County Liaison position on day one only. WSDA will activate a Field Coordination Office in Pasco with one Field Office Coordinator on day two only. Play at this office will terminate when a 24-hour staffing roster is completed for the designated Food Control Points.

The PIO will be pre-positioned in the Richland area and will report one hour after notification.

WSDA will provide a Liaison to the Emergency Operation Facility on day two only.

WSDA will provide one Food Safety Officer to staff a pre-determined Food Control Point in Benton County on day two only. The Food Control Point will be demonstrated outside of the time flow of the exercise. No public traffic will be stopped, and driver contact procedures will be demonstrated by interview.

WSDA will establish an agency EOC and a Food Safety & Animal Health Division ICC at the Natural Resource Building on day two only. The EOC will be staffed with one Operations Coordinator and the ICC will be staffed with only the ICC Coordinator position filled.

WDOH: Limitations: Field teams, EOF, and JIC staff will be pre positioned at a central location in Richland. Personnel will respond to locations not sooner than one hour after notifications. EOC staff will be departing from the offices in Olympia.
MS-1 and EWAC participants will be pre positioned at a central location in Richland.

Administrative support staff in the State EOC may be the same staff for day one and day two. A roster listing qualified staff will be made available to the evaluators.

Field teams will consist of 2 teams. The same field teams will participate in day one and day two activities. A roster listing all qualified field team staff will be made available to the evaluators. Pregnant Staff may be utilized for field team activities.

State Health Officer will be pre positioned to arrive at the State EOC at a pre-determined time.

WA EOC: Limitations: Washington State EOC Liaisons to offsite jurisdictions will be pre-positioned in affected jurisdictions and, upon notification of exercise from State EOC, will delay reporting to assigned loca-

tions for period of one hour. State EOC Liaison to Energy Northwest, who resides in the Tri-Cities, will report to EOF immediately upon notification from State EOC.

Oregon ECC: The Oregon ECC will be set up the day before the exercise.

The following agencies will be represented at the Oregon ECC.

Oregon Office of Energy
Oregon Health Services
Oregon Department of Agriculture
Oregon Emergency Management
Oregon Department of Transportation (phone only on Day 1)
Oregon State Police – (phone only on Day 1)
Oregon National Guard – (phone only on Day 1 and Day 2)

Oregon responders to the Energy Northwest EOF and JIC will be pre-positioned in Richland. Personnel will respond to locations no sooner than one hour after receiving initial emergency notifications.

Oregon responders to the Washington EOC will be pre-positioned in Olympia. Personnel will respond to locations no sooner than one hour after receiving the initial emergency notifications.

One Oregon Health Services Field Team will be pre-positioned at the Hermiston Safety Center at 8 a.m. on day 1 of the exercise. All radiation surveys and the taking of two air samples will be demonstrated in sequence with day 1 exercise activities. All other sampling including the collection of two water, vegetation, and milk samples will be demonstrated out-of-sequence on Day 1.

Morrow and Umatilla Counties will each provide one individual to handle communications and potential decisions involved in the development of geo-political boundaries.

Note: Morrow and Umatilla County EOCs will demonstrate this criterion for evaluation in an out-of-sequence drill on July 16, 2003.

Sub-element 1.b – Facilities

Criterion 1.b.1: Facilities are sufficient to support the emergency response. (NUREG-0654, H)

EXTENT-OF-PLAY

Facilities will only be specifically evaluated for this criterion if they are new or have substantial changes in structure or mission. Responsible OROs should demonstrate the availability of facilities that support the accomplishment of emergency operations. Some of the areas to be considered are adequate space, furnishings, lighting, restrooms, ventilation, backup power and/or alternate facility (if required to support operations).

Facilities must be set up based on the ORO's plans and procedures and demonstrated, as they would be in an actual emergency, unless noted above or otherwise indicated in the Extent-of-Play Agreement.

Region X Extent-of-Play:

All participating EOCs and/or command and control facilities will be evaluated to establish a baseline for future reference.

Benton County: Limitations: Back-up power will not be demonstrated but may be evaluated by interview. No intentional computer failures are included in the scenario.

Franklin County: Limitations: Back-up power will not be demonstrated as part of the exercise. Use of backup power and will be evaluated by interview and review of the backup power procedure and log.

Grant County: Limitations: No incorporated City or Town will play in this exercise.

Yakima County: Limitations: Facilities activated include local emergency operations centers for the cities of Sunnyside and Grandview and the Yakima Valley Primary Emergency Operations Center.

WSDA: No limitations.

WA EOC: Limitations: Alternative power sources will not be demonstrated in this exercise.

Oregon ECC: Only the Oregon ECC will demonstrate this criterion for evaluation under the new criterion in this exercise.

Morrow and Umatilla Counties will demonstrate this criterion for evaluation in an out-of-sequence drill on July 16, 2003.

Sub-element 1.c - Direction and Control

Criterion 1.c.1: Key personnel with leadership roles for the ORO provide direction and control to that part of the overall response effort for which they are responsible. (NUREG-0654, A.1.d. 2.a., b.)

EXTENT-OF-PLAY

Leadership personnel should demonstrate the ability to carry out essential functions of the response effort, for example: keeping the staff informed through periodic briefings and/or other means, coordinating with other appropriate OROs, and ensuring completion of requirements and requests.

All activities associated with direction and control must be performed based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless noted above or otherwise indicated in the Extent-of-Play Agreement.

Region X Extent-of-Play:

Benton County: Limitations: There will be no demonstrations by personnel in the field except for the Food Control Point and Contaminated Injured demonstrations.

Franklin County: Limitation: With the exception of those demonstrations described in 1.a.1, staffing of ACPs, school evacuations, and removal of obstacles will be simulated.

WA EOC: Limitations: Discussion/coordination with Governor's office/staff will be simulated, as required.

Oregon ECC: There are no limitations for this criterion at the Oregon ECC.

Morrow and Umatilla County EOCs will demonstrate this criterion for evaluation in an out-of-sequence drill on July 16, 2003.

Sub-element 1.d – Communications Equipment

Criterion 1.d.1: At least two communication systems are available, at least one operates properly, and communication links are established and maintained with appropriate locations. Communications

capabilities are managed in support of emergency operations. (NUREG-0654, F.1. 2.)

EXTENT-OF-PLAY

OROs will demonstrate that a primary and at least one backup system are fully functional at the beginning of an exercise. If a communications system or systems are not functional, but exercise performance is not affected, no exercise issue will be assessed. Communications equipment and procedures for facilities and field units should be used as needed for the transmission and receipt of exercise messages. All facilities and field teams should have the capability to access at least one communication system that is independent of the commercial telephone system. Responsible OROs should demonstrate the capability to manage the communication systems and ensure that all message traffic is handled without delays that might disrupt the conduct of emergency operations. OROs should ensure that a coordinated communications link for fixed- and mobile-medical support facilities exists.

The specific communications capabilities of OROs should be commensurate with that specified in the response plan and/or procedures. Exercise scenarios could require the failure of a communications system and the use of an alternate system, as negotiated in the Extent-of-Play Agreement.

All activities associated with the management of communications capabilities must be demonstrated based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless noted above or otherwise indicated in the Extent-of-Play Agreement.

Region X Extent-of-Play:

Benton County: Limitations: There will be no deliberate communications failures as part of the scenario. Amateur radio operators will send and receive at least one message.

Franklin County: Limitation: No communications or phone system failures are planned.

HAM radio operators will send and receive at least one message.

WA EOC: Limitations: Deliberate communications interruptions/outages are not planned; however, redundant systems will be used routinely in accordance with normally accepted standards and procedures.

Oregon ECC: Responders to the Oregon ECC will use commercial phone lines to demonstrate one primary communication system. Responders at the Oregon ECC will use Amateur Radio to communicate one message to the Washington State EOC.

Morrow and Umatilla Counties will provide communications support only in this exercise. EOCs in Morrow and Umatilla Counties will demonstrate one primary and one backup communications system for evaluation in an out-of-sequence drill on July 16, 2003.

Sub-element 1.e – Equipment and Supplies to Support Operations

Criterion 1.e.1: Equipment, maps, displays, dosimetry, potassium iodide (KI), and other supplies are sufficient to support emergency operations. (NUREG-0654, H., J.10.a.b.e.f.j.k., 11, K.3.a.)

EXTENT-OF-PLAY

Equipment within the facilities should be sufficient and consistent with the role assigned to that facility in the ORO's plans and/or procedures in support of emergency operations. Use of maps and displays is encouraged.

All instruments should be inspected, inventoried, and operationally checked before each use. Instruments

should be calibrated in accordance with the manufacturer's recommendations. Unmodified CDV-700 series instruments and other instruments without a manufacturer's recommendation should be calibrated annually. Modified CDV-700 instruments should be calibrated in accordance with the recommendation of the modification manufacturer. A label indicating such calibration should be on each instrument or calibrated frequency can be verified by other means. Additionally, instruments being used to measure activity should have a range of readings sticker affixed to the side of the instrument. The above considerations should be included in 4.a.1 for field team equipment; 4.c.1 for radiological laboratory equipment (does not apply to analytical equipment; under 4.c.1; reception center and Emergency Worker facilities' equipment under 6.a.1; and ambulance and medical facilities' equipment under 6.d.1.

Sufficient quantities of appropriate direct-reading and permanent record dosimetry and dosimeter chargers should be available for issuance to all categories of Emergency Workers that could be deployed from that facility. Appropriate direct-reading dosimeters should allow individual(s) to read the administrative reporting limits and maximum exposure limits contained in the ORO's plans and procedures.

Dosimetry should be inspected for electrical leakage at least annually and replaced, if necessary. CDV-138s, due to their documented history of electrical leakage problems, should be inspected for electrical leakage at least quarterly and replaced if necessary. This leakage testing will be verified during the exercise, through documentation submitted in the Annual Letter of Certification, and/or through staff assistance visits.

Responsible OROs should demonstrate the capability to maintain inventories of KI sufficient for use by Emergency Workers, as indicated on rosters; institutionalized individuals, as indicated in capacity lists for facilities; and, where stipulated by the plan and/or procedures, members of the general public (including transients) within the plume pathway EPZ.

Quantities of dosimetry and KI available and storage locations(s) will be confirmed by physical inspection at storage location(s) or through documentation of current inventory submitted during the exercise, provided in the Annual Letter of Certification submission, and/or verified during a Staff Assistance Visit. Available supplies of KI should be within the expiration date indicated on KI bottles or blister packs. As an alternative, the ORO may produce a letter from a certified private or State laboratory indicating that the KI supply remains potent, in accordance with U.S. Pharmacopoeia standards.

At locations where traffic and access control personnel are deployed, appropriate equipment (e.g., vehicles, barriers, traffic cones and signs, etc.) should be available or their availability described.

All activities must be based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless noted above or otherwise indicated in the Extent-of-Play Agreement.

REGION X EXTENT-OF-PLAY:

Benton County: Limitation: Dosimetry and KI inventories are evaluated by site inspections separate from the exercise. This sub-element is limited to the use of dosimetry and KI by personnel assigned to the EOF, Food Control Point and Contaminated Injury demonstrations.

Franklin County: Limitations: Supplies of KI are subject to annual FEMA review. No KI will be consumed during the exercise. Members of the agencies participating in the field demonstrations that are equipped Direct Reader Dosimeters will conduct electrical leakage tests in accordance with Implementing Procedure (IP) EW-0, Emergency Worker Kit procedure.

Grant County: Limitation: No radiation monitoring equipment will be demonstrated during the exercise.

Oregon ECC:

FEMA evaluation of this criterion will be conducted at the Oregon ECC and the Hermiston Safety Center only.

Morrow and Umatilla County EOCs will demonstrate this criterion for evaluation in an out-of-sequence drill on July 16, 2003.

EVALUATION AREA 2: PA DECISION-MAKING

Sub-element 2.a – Emergency Worker Exposure Control

Criterion 2.a.1: OROs use a decision-making process, considering relevant factors and appropriate coordination, to ensure that an exposure control system, including the use of KI, is in place for Emergency Workers including provisions to authorize radiation exposure in excess of administrative limits or PA guides. (NUREG-0654, K.4.)

Radiation exposure limits for Emergency Workers are the recommended accumulated dose limits or exposure rates that Emergency Workers may be permitted to incur during an emergency. These limits include any pre-established administrative reporting limits (that take into consideration Total Effective Dose Equivalent or organ-specific limits) identified in the ORO's plans and procedures.

EXTENT-OF-PLAY

OROs authorized to send Emergency Workers into the plume exposure pathway EPZ should demonstrate a capability to meet the criterion based on their emergency plans and procedures.

Responsible OROs should demonstrate the capability to make decisions concerning the authorization of exposure levels in excess of pre-authorized levels and to the number of Emergency Workers receiving radiation dose above pre-authorized levels.

As appropriate, OROs should demonstrate the capability to make decisions on the distribution and administration of KI, as a protective measure, based on the ORO's
Plan and/or procedures or projected thyroid dose compared with the established PA guides (PAGs) for KI administration.

All activities must be based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless noted above or otherwise indicated in the Extent-of-Play Agreement.

REGION X EXTENT-OF-PLAY:

Benton County: Limitations: All field activities will be simulated.

WDOH: No limitations.

Oregon ECC: FEMA **evaluation of this criterion is limited to Oregon responders to the Energy Northwest Emergency Operations Facility and one Oregon Health Services Field Team pre-staged at the Hermiston Safety Center to confirm that there is no plume impact in Oregon.**

Sub-element 2.b. Radiological Assessment and PA Recommendations and Decisions for the Plume Phase of the Emergency

Criterion 2.b.1: Appropriate PA recommendations are based on available information on plant conditions, field monitoring data, and licensee and ORO dose projections, as well as knowledge of onsite and offsite environmental conditions. (NUREG-0654, I.8. 10. 11. and Supplement 3.)

EXTENT-OF-PLAY

During the initial stage of the emergency response, following notification of plant conditions that may warrant offsite PAs, the ORO should demonstrate the capability to use appropriate means, described in the plan and/or procedures, to develop PA recommendations (PARs) for decision-makers based on available information and recommendations from the licensee and field monitoring data, if available.

When the licensee provides release and meteorological data, the ORO also considers these data. The ORO should demonstrate a reliable capability to independently validate dose projections. The types of calculations to be demonstrated depend on the data available and the need for assessments to support the PARs appropriate to the scenario. In all cases, calculation of projected dose should be demonstrated. Projected doses should be related to quantities and units of the PAGs to which they will be compared. PARs should be promptly transmitted to decision-makers in a prearranged format.

Differences greater than a factor of 10 between projected doses by the licensee and the ORO should be discussed with the licensee with respect to the input data and assumptions used, the use of different models, or other possible reasons. Resolution. of these differences should be incorporated into the PAR if timely and appropriate. The ORO should demonstrate the capability to use any additional data to refine projected doses and exposure rates and revise the associated PARs.

All activities must be based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless noted above or otherwise indicated in the Extent-of-Play Agreement.

REGION X EXTENT-OF-PLAY:

Limitations: None

Oregon ECC: FEMA evaluation of this criterion is limited to Oregon responders to the Energy Northwest Emergency Operations Facility.

Sub-element 2.b. Radiological Assessment and PA Recommendations and Decisions for the Plume Phase of the Emergency

Criterion 2.b.2: A decision-making process involving consideration of appropriate factors and necessary coordination is used to make PA decisions (PADs) for the general public (including the recommendation for the use of KI, if ORO policy). (NUREG-0654, J.9., 10.m.)

EXTENT-OF-PLAY

OROs should have the capability to make both initial and subsequent PADs. They should demonstrate the capability to make initial PADs in a timely manner appropriate to the situation, based on notification from the licensee, assessment of plant status and releases, and PARs from the utility and ORO staff.

The dose assessment personnel may provide additional PARs based on the subsequent dose projections, field monitoring data, or information on plant conditions. The decision-makers should demonstrate the capability to change PAs as appropriate based on these projections.

If the ORO has determined that KI will be used as a protective measure for the general public under offsite plans, then the ORO should demonstrate the capability to make decisions on the distribution and administration of KI as a protective measure for the general public to supplement shelter and evacuation. This decision should be based on the ORO's plan and/or procedures or projected thyroid dose compared with the established PAG for KI administration. The KI decision-making process should involve close coordination with appropriate assessment and decision-making staff.

If more than one ORO is involved in decision-making, OROs should communicate and coordinate PADs with affected OROs. OROs should demonstrate the capability to communicate the contents of decisions to the affected jurisdictions.

All decision-making activities by ORO personnel must be performed based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless noted above or otherwise indicated in the Extent-of-Play Agreement.

REGION X EXTENT-OF-PLAY:

Limitations: None

N/A in Oregon

Sub-element 2.c - PA Decisions Consideration for the Protection of Special Populations

Criterion 2.c.1: PA decisions are made, as appropriate, for special population groups. (NUREG-0654, J.9., 10.c.d.e.g.)

EXTENT-OF-PLAY

Usually, it is appropriate to implement evacuation in areas where doses are projected to exceed the lower end of the range of PAGs, except for situations where there is a high-risk environment or where high-risk groups (e.g., the immobile or infirm) are involved: In these cases, examples of factors that should be considered are weather conditions, shelter availability, availability of transportation assets, risk of evacuation vs. risk from the avoided dose, and precautionary school evacuations. In situations were an institutionalized population cannot be evacuated, the administration of KI should be considered by the OROs.

Applicable OROs should demonstrate the capability to ALERT and notify all public school systems/districts of emergency conditions that are expected to or may necessitate PAs for students. Contact with public school systems/ districts must be actual, not simulated.

In accordance with plans and/or procedures, OROs and/or officials of participating public school systems/districts should demonstrate the capability to make prompt decisions on PAs for students. Officials should demonstrate that the decision making process for PAs considers (e.g., either accepts automatically or gives heavy weight to) PA recommendations made by ORO personnel, the ECL at which these recommendations are received, preplanned strategies for PAs for that ECL, and the location of students at the time (e.g., whether the students are still at home, en route to the school, or at the school).

All decision-making activities associated with PAs, including consideration of available resources, for special population groups must be based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless noted above or otherwise indicated in the Extent-of-Play Agreement.

REGION X EXTENT-OF-PLAY:

Limitations: None

N/A in Oregon

Sub-element 2.d. –Radiological Assessment and Decision-Making for the Ingestion Exposure Pathway

Criterion 2.d.1: Radiological consequences for the ingestion pathway are assessed and appropriate PA

decisions are made based on the ORO planning criteria. (NUREG-0654, I.8., J.11)

During an accident at a nuclear power plant, a release of radioactive material may contaminate water supplies and agricultural products in the surround areas. Any such contamination would likely occur during the plume phase of the accident, and depending on the nature of the release could impact the ingestion pathway for weeks or years.

EXTENT-OF-PLAY

We expect that the ORO will take precautionary actions to protect food and water supplies, or to minimize exposure to potentially contaminated water and food, in accordance with their respective plans and procedures. Often such precautionary actions are initiated by the OROs based on criteria related to the facility's emergency classification levels (ECL). Such action may include recommendations to place milk animals on stored feed and to use protected water supplies.

The ORO should use its procedures (for example, development of a sampling plan) to assess the radiological consequences of a release on the food and water supplies. The ORO assessment should include the evaluation of the radiological analyses of representative samples of water, food, and other ingestible substances of local interest from potentially impacted areas, the characterization of the releases from the facility, and the extent of areas potentially impacted by the release. During this assessment, OROs should consider the use of agricultural and watershed data within the 50-mile EPZ. The radiological impacts on the food and water should then be compared to the appropriate ingestion PAGs contained in the ORO's plan and/or procedures. (The plan and/or procedures may contain PAGs based on specific dose commitment criteria or based on criteria as recommended by current Food and Drug Administration guidance.) Timely and appropriate recommendations should be provided to the ORO decision-makers group for implementation decisions. As time permits, the ORO may also include a comparison of taking or not taking a given action on the resultant ingestion pathway dose commitments.

The ORO should demonstrate timely decisions to minimize radiological impacts from the ingestion pathway, based on the given assessments and other information available. Any such decisions should be communicated and to the extent practical, coordinated with neighboring and local OROs.

OROs should use Federal resources, as identified in the Federal Radiological Emergency Response Plan (FRERP), and other resources (e.g., compacts, nuclear insurers, etc), if available. Evaluation of this criterion will take into consideration the level of Federal and other resources participating.

All activities must be based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless noted above or otherwise indicated in the Extent-of-Play Agreement.

REGION X EXTENT-OF-PLAY:

Benton County: Limitations: Benton County participation limited to proposing geo-political boundaries of a food control area and discussion with State decision-makers.

Franklin County: Limitations: SCENARIO DEPENDANT. Franklin County will identify the geo-political boundary for those portions of the Controlled Area and/or the Food Control Area that lie within Franklin County. Franklin County will coordinate with adjacent jurisdictions to ensure that geo-political boundaries are aligned.

In the event that the scenario does not cause the plume to fall within Franklin County, Ingestion, Relocation, Re-entry, and Return activities to be evaluated by interview of EOC Staff at the end of the Plume Phase activities on Day 1 of this exercise.

Walla Walla County: Limitations: Walla Walla County will participate in this evaluation area, but play is limited to proposing geo-political boundaries of a food control area and discussions with decision makers.

Yakima County: Limitations: The Primary Emergency Operations Center staff will inform the local EOC staff in Sunnyside and Grandview of the State's decision.

WDOH:

Limitations: MUDAC staff will prepare an initial Food Control isopleth and one revised Food Control isopleth. The revised Food Control isopleth is based on 20 sample analyses.

The sample analyses will be controller interjected and have no bearing on field team activities.

Field Team Coordinator will receive isopleth survey results via a control cell for approximately 20 readings.

Day 2 MUDAC staff will receive EDPS plume footprint maps from day 1 activities.

Oregon ECC: There are no limitations for this criterion at the Oregon ECC.

Morrow and Umatilla County EOCs will demonstrate this criterion for evaluation in an out-of-sequence drill on July 16, 2003.

Sub-element 2.e. Radiological Assessment and Decision-Making Concerning Relocation, Re-entry, and Return

Criterion 2.e.1: Timely relocation, re-entry, and return decisions are made and coordinated as appropriate, based on assessments of the radiological conditions and criteria in the ORO's plan and/or procedures. (NUREG-0654, A.1.b., I.10., M)

EXTENT-OF-PLAY

Relocation: OROs should demonstrate the capability to estimate integrated dose in contaminated areas and to compare these estimates with PAGs, apply decision criteria for relocation of those individuals in the general public who have not been evacuated but where projected doses are in excess of relocation PAGs and control access to evacuated and restricted areas. Decisions are made for relocating members of the evacuated public who lived in areas that now have residual radiation levels in excess of the PAGs. Determination of areas to be restricted should be based on factors such as the mix of radionuclides in deposited materials, calculated exposure rates vs. the PAGs and field samples of vegetation and soil analyses.

Re-entry: Decisions should be made regarding the location of control points and policies regarding access and exposure control for Emergency Workers and members of the general public who need to enter the evacuated area to perform specific tasks or missions.

Examples of control procedures are the assignment of or checking for, direct reading and non direct-reading dosimeters for Emergency Workers; questions regarding the individual's objectives and locations expected to be visited and associated time frames; availability of maps and plots of radiation exposure rates; advice on areas to avoid; and procedures for exit including: monitoring of individuals, vehicles, and equipment, decision criteria regarding decontamination; and proper disposition of Emergency Worker dosimeters and maintenance of Emergency Worker radiation exposure records.

Responsible OROs should demonstrate the capability to develop a strategy for authorized re-entry of individuals into the restricted zone, based on established decision criteria. OROs should demonstrate the capability to modify those policies for security purposes (e.g., police patrols), for maintenance of essential

services (e.g., fire protection and utilities), and for other critical functions. They should demonstrate the capability to use decision-making criteria in allowing access to the restricted zone by the public for various reasons, such as to maintain property (e.g., to care for the farm animals or secure machinery for storage), or to retrieve important possessions. Coordinated policies for access and exposure control should be developed among all agencies with roles to perform in the restricted zone. OROs should demonstrate the capability to establish polices for provision of dosimetry to all individuals allowed to re-enter the restricted zone. The extent that OROs need to develop policies on re-entry will be determined by scenario events.

Return: Decisions are to be based on environmental data and political boundaries or physical/geological features, allowing identification of the boundaries of areas to which members of the general public may return. Return is permitted to the boundary of the restricted area that is based on the relocation PAG.

Other factors that the ORO should consider are, for example: conditions that permit the cancellation of the emergency classification level and the relaxation of associated restrictive measures, basing return recommendations (i.e., permitting populations that were previously evacuated to reoccupy their homes and businesses on an unrestricted basis) on measurements of radiation from ground deposition; and the capability to identify services and facilities that require restoration within a few days and to identify the procedures and resources for their restoration. Examples of these services and facilities are: medical and social services, a utility, roads, schools, and intermediate term housing for relocated persons.

All activities must be based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless noted above or otherwise indicated in the Extent-of-Play Agreement.

REGION X EXTENT-OF-PLAY:

Benton County: Limitations: County participation limited to proposing geo-political boundaries of a relocation area and discussion with State decision makers concerning relocation and return. Re-entry will not be demonstrated.

Franklin County: Limitations: Scenario Dependant. To be evaluated by review of the appropriate procedures and interview of EOC Staff.

In the event that the scenario does not cause the plume to fall within Franklin County, Ingestion, Relocation, Re-entry, and Return activities to be evaluated by interview of EOC Staff at the end of the Plume Phase activities on Day 1 of this exercise.

WDOH: Limitations: WDOH MUDAC staff will demonstrate one revised Relocation Isopleth. Once the revised relocation isopleth is developed and completed the Extent-of-Play is done. The State EOC and the County EOCs will not demonstrate revising the relocation area. The JIC will receive controller interject of a revised relocation area map with Geo political boundaries. The JIC will demonstrate the ability to deliver this information to the public. EOF staff will continue to participate and provide clarification of the revised isopleth to staff stationed at the JIC. The same relocation area map will be available to MUDAC staff so they can give clarification.

Oregon ECC: N/A in Oregon.

EVALUATION AREA 3: PA IMPLEMENTATION

Sub-element 3.a – Implementation of Emergency Worker Exposure Control

Criterion 3.a.1: The OROs issue appropriate dosimetry and procedures, and manage radiological exposure to Emergency Workers in accordance with the plans and procedures. Emergency Workers periodically

and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart. (NUREG-0654, K.3.)

EXTENT-OF-PLAY

OROs should demonstrate the capability to provide appropriate direct-reading and permanent record dosimetry, dosimetry chargers, and instructions on the use of dosimetry to Emergency Workers. For evaluation purposes, appropriate direct-reading dosimetry is defined as dosimetry that allows individual(s) to read the administrative reporting limits (that are pre-established at a level low enough to consider subsequent calculation of Total Effective Dose Equivalent) and maximum exposure limits (for those Emergency Workers involved in life saving activities) contained in the OROs plans and procedures.

Each Emergency Worker should have the basic knowledge of radiation exposure limits as specified in the ORO's plan and/or procedures. Procedures to monitor and record dosimeter readings and to manage radiological exposure control should be demonstrated.

During a plume phase exercise, Emergency Workers should demonstrate the procedures to be followed when administrative exposure limits and turn-back values are reached. The Emergency Worker should report accumulated exposures during the exercise as indicated in the plans and procedures. OROs should demonstrate the actions described in the plan and/or procedures by determining whether to replace the worker, to authorize the worker to incur additional exposures or to take other actions. If scenario events do not require Emergency Workers to seek authorizations for additional exposure, evaluators should interview at least two Emergency Workers, to determine their knowledge of whom to contact in the event authorization is needed and at what exposure levels. Emergency Workers may use any available resources (e.g. written procedures and/or co-workers) in providing responses.

Although it is desirable for all Emergency Workers to each have a direct-reading dosimeter, there may be situations where team members will be in close proximity to each other during the entire mission and adequate control of exposure can be affected for all members of the team by one dosimeter worn by the team leader. Emergency Workers who are assigned to low exposure rate areas, e.g., at reception centers, counting laboratories, emergency operations centers, and communications centers, may have individual direct-reading dosimeters or they may be monitored by dosimeters strategically placed in the work area. It should be noted that, even in these situations, each team member must still have their own permanent record dosimeter.

Individuals without specific radiological response missions, such as farmers for animal care, essential utility service personnel, or other members of the public who must re-enter an evacuated area following or during the plume passage, should be limited to the lowest radiological exposure commensurate with completing their missions.

All activities must be based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless noted above or otherwise indicated in the Extent-of-Play Agreement.

REGION X EXTENT-OF-PLAY:

General Limitation: No KI will be consumed by any exercise participant.

Benton County: Limitations: The demonstration of this sub-element is limited to the Benton County EOF representatives on the first day of the exercise and the out of sequence Food Control Point and Contaminated Injured demonstrations.

Franklin County: Limitations: To be demonstrated by Franklin County Sheriffs Office (FCSO), Pasco Police Department (PPD), and Pasco School District Transportation Section (PSD).

Location of Demonstrations: FCSO and PPD will sign for Emergency Worker Kits at the FCSO Squad Room (Franklin County Courthouse). PSD will sign for Emergency Worker Kits at the PSD Transportation Office (3412 N. Stearman Avenue, Pasco).

WSDA: **Limitations**: WSDA Field Sampler dosimetry knowledge will be demonstrated during an out-of-sequence milk sampling drill in Franklin County on July 25th, 2002.

WDOH:
Limitations: Two field team members will be interviewed at the end of day one.

Unresolved ARCA:
Unresolved ARCA 69-98-05-A02 will be resolved during this exercise.

Oregon ECC: **FEMA** evaluation of this criterion is limited to Oregon responders to the Energy Northwest Emergency Operations Facility and one Oregon Health Services Field Team pre-staged at the Hermiston Safety Center to confirm that there is no plume impact in Oregon.

Sub-element 3.b – Implementation of KI Decision

Criterion 3.b.1: KI and appropriate instructions are available should a decision to recommend use of KI be made. Appropriate record keeping of the administration of KI for Emergency Workers and institutionalized individuals is maintained. (NUREG-0654, E. 7., J. 10. e., f.)

EXTENT-OF-PLAY

OROs should demonstrate the capability to make KI available to Emergency Workers, institutionalized individuals, and, where provided for in the ORO plan and/or procedures, to members of the general public. OROs should demonstrate the capability to accomplish distribution of KI consistent with decisions made. Organizations should have the capability to develop and maintain lists of Emergency Workers and institutionalized individuals who have ingested KI, including documentation of the date(s) and time(s) they were instructed to ingest KI. The ingestion of KI recommended by the designated ORO health official is voluntary. For evaluation purposes, the actual ingestion of KI is not necessary. OROs should demonstrate the capability to formulate and disseminate appropriate instructions on the use of KI for those advised to take it. If a recommendation is made for the general public to take KI, appropriate information should be provided to the public by the means of notification specified in the ORO's plan and/or procedures.

Emergency Workers should demonstrate the basic knowledge of procedures for the use of KI whether or not the scenario drives the use of KI. This can be accomplished by an interview with the evaluator.

All activities must be based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless noted above or otherwise indicated in the Extent-of-Play Agreement.

REGION X EXTENT-OF-PLAY:

General Limitation: exercise participants will not consume KI.

Benton County: **Limitations**: The demonstration of this sub-element is limited to the Benton County EOC, Benton County EOF representatives and out of sequence Food Control Point and Contaminated Injured demonstrations.

Franklin County: **Limitations**: Evaluation will be by review of procedure and interview of exercise participants.

WDOH: **Limitations**: The consumption of KI will be simulated.

Oregon ECC:

FEMA evaluation of this criterion is limited to Oregon responders to the Energy Northwest Emergency Operations Facility.

Sub-element 3.c – Implementation of PAs for Special Populations

Criterion 3.c.1: PA decisions are implemented for special populations other than schools within areas subject to PAs. (NUREG-0654, E.7., J.9., 10.c.d.e.g.)

EXTENT-OF-PLAY

Applicable OROs should demonstrate the capability to ALERT and notify (e.g., provide PA recommendations and emergency information and instructions) special populations (hospitals, nursing homes, correctional facilities, mobility impaired individuals, transportation dependent, etc). OROs should demonstrate the capability to provide for the needs of special populations in accordance with the ORO's plans and procedures.

Contact with special populations and reception facilities may be actual or simulated, as agreed to in the Extent-of-Play. Some contacts with transportation providers should be actual, as negotiated in the Extent-of-Play. All actual and simulated contacts should be logged.

All implementing activities associated with PAs for special populations must be based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless noted above or otherwise indicated in the Extent-of-Play Agreement.

REGION X EXTENT-OF-PLAY:

Benton County: **Limitations**: Folks living in Benton County pre-identified as needing evacuation assistance will be called during the exercise to update database information and determine how many would have needed assistance if it had been a real emergency. No one will be transported.

Franklin County: **Limitations**: A sample of three (3) phone calls will be made to those residents of the Franklin County portion of the Energy Northwest EPZ identified as requiring transportation assistance in the event of an emergency. Transportation missions will be simulated.

WSDA: N/A for WSDA.

WDOH: N/A.

Oregon ECC: N/A in Oregon.

Sub-element 3.c – Implementation of PAs for Special Populations

Criterion 3.c.2: OROs/School officials decide implement PAs for schools. (NUREG-0654, J.10.c., d., g.)

EXTENT-OF-PLAY

Public school systems/districts shall demonstrate the ability implement PA decisions for students. The demonstration shall be made as follows: At least one school in a school system or district within the EPZ, as appropriate, needs to demonstrate the implementation of PAs. The implementation of canceling the school

day, dismissing early, or sheltering, should be simulated by describing to evaluators the procedures that would be followed. If evacuation is the implemented PA, all activities to coordinate and complete the evacuation of students to reception centers, congregate care centers, or host schools may actually be demonstrated or accomplished through an interview process. If accomplished through an interview process, appropriate school personnel including decision making officials (e.g., superintendent/principal, transportation director/bus dispatcher), and at least one bus driver (and the bus driver's escort, if applicable) should be available to demonstrate knowledge of their role(s) in the evacuation of school children. Communications capabilities between school officials and the buses, if required by the plan and/or procedures, should be verified.

Officials of the participating school(s) or school system(s) should demonstrate the capability to develop and provide timely information to OROs for use in messages to parents, the general public, and the media on the status of PAs for schools.

The provisions of this criterion also apply to any private schools, private kindergartens and day care centers that participate in REP exercises pursuant to the OROs plans and procedures as negotiated in the Extent-of-Play Agreement.

All activities must be based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless specified above or indicated in the Extent-of-Play Agreement.

REGION X EXTENT-OF-PLAY:

Benton County: There are no schools within the Plume EPZ in Benton County.

Franklin County: Pasco School District Transportation Section and Edwin Markham Elementary School will participate in this exercise.

Pasco School District Transportation Personnel will sign out Emergency Worker Kit(s) at the Pasco School District Transportation Office (3412 N. Stearman Ave., Pasco) and describe actions to be taken upon being directed to evacuate Edwin Markham Elementary School. Limitations: Transportation mission will be simulated.

Edwin Markham Elementary School Principal will provide evaluator with a description of actions to be taken upon being notified to evacuate the school. **Limitations**: Evacuation will be simulated.

WSDA: N/A for WS DA.

WDOH: N/A for WDOH

Oregon ECC: N/A in Oregon

Sub-element 3.d. – Implementation of Traffic and Access Control

Criterion 3.d.1: Appropriate traffic and access control is established. Accurate instructions are provided to traffic and access control personnel. (NUREG-0654, J.10.g., j., k.)

EXTENT-OF-PLAY

OROs should demonstrate the capability to select, establish, and staff appropriate traffic and access control points consistent with PA decisions (for example, evacuating, sheltering, and relocation), in a timely manner. OROs should demonstrate the capability to provide instructions to traffic and access control staff on actions to take when modifications in PA strategies necessitate changes in evacuation patterns or in the area(s) where

access is controlled, traffic and access control staff should demonstrate accurate knowledge of their roles and responsibilities. This capability may be demonstrated by actual deployment or by interview in accordance with the Extent-of-Play Agreement.

In instances where OROs lack authority necessary to control access by certain types of traffic (rail, water, and air traffic), they should demonstrate the capability to contact the State or Federal agencies with authority to control access.

All activities must be based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless specified above or indicated in the Extent-of-Play Agreement.

REGION X EXTENT-OF-PLAY:

Benton County: Limitations: No personnel will be dispatched and no Access Control Points will be established in the field. All field activities will be simulated.

Franklin County: Limitations: Franklin County Sheriff's Office (FCSO) and Pasco Police Department (PPD) will participate in this exercise. Staffing and deployment of all other access/traffic control points will be conducted as specified in EOC Staff REP-specific Implementing Procedures.

One representative from both FCSO and PPD will sign for Emergency Workers Kits and describe actions to be taken at an Access Control Point (ACP). Demonstration of the ACP will occur in the parking lot of the Franklin County Courthouse. The "Roadblock" portion of the ACP will be in accordance with each agency's specific Standard Operating Procedures (SOP).

Oregon ECC: N/A in Oregon

Sub-element 3.d. – Implementation of Traffic and Access Control

Criterion 3.d.2: Impediments to evacuation are identified and resolved. (NUREG-0654, J.10., k.)

EXTENT-OF-PLAY

OROs should demonstrate the capability, as required by the scenario, to identify and take appropriate actions concerning impediments to evacuation. Actual dispatch of resources to deal with impediments, such as wreckers, need not be demonstrated; however, all contacts, actual or simulated should be logged.

All activities must be based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless specified above or indicated in the Extent-of-Play Agreement.

REGION EXTENT-OF-PLAY:

Benton County: Limitations: There will be no Benton County field demonstration. All activities will be simulated.

Franklin County: Limitations: EOC Staff will coordinate the SIMULATED removal of an obstacle.

WSDA: N/A for WSDA.

WDOH: N/A for WDOH.

Oregon ECC: N/A in Oregon

Sub-element 3.e – Implementation of Ingestion Pathway Decisions

Criterion 3.e.1: The ORO demonstrates the availability and appropriate use of adequate information regarding water, food supplies, milk, and agricultural production within the ingestion exposure pathway emergency planning zone for implementation of PAs. NUREG-0654, J.9., 11.)

EXTENT-OF-PLAY

Applicable OROs should demonstrate the capability to secure and utilize current information on the locations of dairy farms, meat and poultry producers, fisheries, fruit growers, vegetable growers, grain producers, food processing plants, and water supply intake points to implement PAs within the ingestion pathway EPZ.

OROs should use Federal resources as identified in the FRERP, and other resources (e.g. compacts, nuclear insurers, etc), if available. Evaluation of this criterion will take into consideration the level of Federal and other resources participating in the exercise.

All activities must be based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless noted above or otherwise indicated in the Extent-of-Play Agreement.

REGION X EXTENT-OF-PLAY:

Benton County: All the information called for, except for public water supplies, is a WA Agriculture function. **Limitations**: Benton County involvement is limited to providing advice and consent to State Decision-Makers.

Franklin County: Limitations: Scenario Dependent. Any distribution of information from the EOC and JIC will be simulated. Hard copy of all News Releases and other public information documents will be available for review.

Walla Walla County: Limitations: Will only provide local advice and considerations to Washington Department of Agricultural decision-makers.

WSDA: Limitations: The WSDA ICC will provide a contact list for dairies and food processors within the Food Control Area and will provide a phone message script to be delivered by Phone Team operators to members of that list.

The WSDA EOF Liaison will provide crop information for development of the detailed sampling plan. **Limitations**: No processors or dairies will actually be contacted and no Phone Team members will be activated for this exercise.

WDOH: Limitations: Staff will coordinate with the WSDA representative for complete information on locations of dairies, farms, processors, growers and any other agricultural significance.

Oregon ECC: There are no limitations for this criterion at the Oregon ECC. Morrow and Umatilla County EOCs will demonstrate this criterion for evaluation in an out-of-sequence drill on July 16, 2003.

Sub-element 3.e – Implementation of Ingestion Pathway Decisions

Criterion 3.e.2: Appropriate measures, strategies, and pre-printed instructional material are developed for implementing PA decisions for contaminated water, food products, milk, and agricultural production. (NUREG-0654, E.5., 7., J.9, 11.)

i. EXTENT-OF-PLAY

Development of measures and strategies for implementation of IPZ PAs should be demonstrated by formulation of PA information for the general public and food producers and processors. This includes either pre-distributed public information material in the Ingestion Pathway Zone or the capability for rapid distribution of appropriate camera-ready information and instructions to pre-determined individuals and businesses. OROs should demonstrate the capability to control, restrict or prevent distribution of contaminated food by commercial sections. Exercise play should include demonstration of communications and coordination between organizations to implement PAs. Actual field play of implementation activities may be simulated. For example, communications and coordination with agencies responsible for enforcing food controls within the IPZ should be demonstrated, but actual communications with food producers and processors may be simulated.

All activities must be based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless noted above or otherwise indicated in the Extent-of-Play Agreement.

REGION X EXTENT-OF-PLAY

Benton County: Limitations: There will be no County field demonstration of this issue. Distribution of pre-printed materials will be simulated.

Franklin County: Scenario Dependent. Materials for distribution will be available for review at the Franklin County EOC. **Limitations:** Distribution of pre-printed materials will be simulated.

Grant County: Limitations: Actual field play of implementation activities will not be made.

Walla Walla County: Limitations: Will show a copy of the Emergency Preparedness brochure and explain actions to copy and distribute.

Yakima County: Limitations: The Primary EOC will coordinate these decisions with the EOCs of Sunnyside and Grandview.

WSDA: Limitations: The WSDA Emergency management Liaison will provide a contact list for transportation companies that operate within the 50 mile EPZ. This contact list, including barge lines, railroads and trucking firms, would be used to determine if uncovered agricultural products passed through the ingestion plume and may have been contaminated. A contact message will be developed for these firms, but actual contact will not be made. This procedure will be demonstrated to satisfy ARCA 69-00-27-A-05.

WSDA will demonstrate one Food Control Point with Benton County on day two of the exercise. This Food Control Point will be demonstrated at a pre-determined location and out of time sequence with the exercise, to avoid running late at night. Contact procedures will be demonstrated by interview and no public traffic will be stopped for this exercise.

The WSDA Field Office Coordinator will provide a 24-hour staffing roster for the designated Food Control Points.

Oregon ECC: The actual dissemination of pre-printed materials will be simulated. Instead, the Public Information Officer will explain to FEMA evaluators Oregon's procedures for the dissemination of pre-printed instructional materials to satisfy this portion of the criterion.

The Oregon ECC actions will be limited to the development of geo-political boundaries for a Food Control Area. If the Food Control Area crosses State lines, decision-makers at the Oregon ECC and the Washington EOC will coordinate the development of geo-political boundaries.

The established geo-political boundaries for a Food Control Area will be communicated but not coordinated with the Morrow and Umatilla County EOCs.

The Morrow and Umatilla County EOCs will demonstrate this criterion for evaluation in an out-of-sequence drill on July 16, 2003. Note: In the July 16, 2003 out-of-sequence drill, Umatilla County will conduct one news conference to close an ARCA received during the December 1999 exercise.

EVALUATION AREA 3: PA IMPLEMENTATION

Sub-element 3.f. – Implementation of Relocation, Re-entry, and Return Decisions

Criterion 3.f.1: Decisions regarding controlled re-entry of Emergency Workers and relocation and return of the public are coordinated with appropriate organizations and implemented. (NUREG-0654, M.1., 3.)

EXTENT-OF-PLAY

Relocation: OROs should demonstrate the capability to coordinate and implement decisions concerning relocation of individuals, not previously evacuated, to an area where radiological contamination will not expose the general public to doses that exceed the relocation PAGs. OROs should also demonstrate the capability to provide for short-term or long-term relocation of evacuees who lived in areas that have residual radiation levels above the (first-, second-, and fifty-year) PAGs.

Areas of consideration should include the capability to communicate with OROs regarding timing of actions, notification of the population of the procedures for relocation, and the notification of, and advice for, evacuated individuals who will be converted to relocation status in situations where they will not be able to return to their homes due to high levels of contamination. OROs should also demonstrate the capability to communicate instructions to the public regarding relocation decisions.

Re-entry: OROs should demonstrate the capability to control re-entry and exit of individuals who need to temporarily re-enter the restricted area, to protect them from unnecessary radiation exposure and for exit of vehicles and other equipment to control the spread of contamination outside the restricted area. Monitoring and decontamination facilities will be established as appropriate.

Examples of control procedure subjects are: (1) the assignment of, or checking for, direct-reading and non-direct-reading dosimeters for Emergency Workers; (2) questions regarding the individuals' objectives and locations expected to be visited and associated timeframes; (3) maps and plots of radiation exposure rates; (4) advice on areas to avoid; and procedures for exit, including monitoring of individuals, vehicles, and equipment, decision criteria regarding contamination, proper disposition of Emergency Worker dosimeters, and maintenance of Emergency Worker radiation exposure records.

Return: OROs should demonstrate the capability to implement policies concerning return of members of the public to areas that were evacuated during the plume phase. OROs should demonstrate the capability to identify and prioritize services and facilities that require restoration within a few days, and to identify the procedures and resources for their restoration. Examples of these services and facilities are medical and social services, utilities, roads, schools, and intermediate term housing for relocated persons.

Communications among OROs for relocation, re-entry, and return may be simulated; however all simulated or actual contacts should be documented. These discussions may be accomplished in a group setting.

OROs should use Federal resources as identified in the FRERP, and other resources (e.g. compacts, nuclear insurers, etc), if available. Evaluation of this criterion will take into consideration the level of Federal and other resources participating in the exercise.

All activities must be based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless noted above or otherwise indicated in the Extent-of-Play Agreement.

REGION X EXTENT-OF-PLAY:

Benton County: Limitations: There will be no Benton County field demonstration of this issue.

Franklin County: Limitations: SCENARIO DEPENDANT. All field activities on the part of the Franklin County Emergency Response Organization will be simulated.

Grant County: Limitations: No actual Press Release will be made.

No re-entry or return demonstrations are planned; however, discussion of subjects is offered.

Communications among Counties for relocation, re-entry, and return can be made; however these discussions may be accomplished in a group setting.

WSDA: N/A for WSDA.

Oregon ECC: N/A in Oregon.

EVALUATION AREA 4: FIELD MEASUREMENT AND ANALYSIS

Sub-element 4.a – Plume Phase Field Measurements and Analyses

Criterion 4.a.1: The field teams are equipped to perform field measurements of direct radiation exposure (cloud and ground shine) and to sample airborne radioiodine and particulates. (NUREG-0654, H.10, I.8., 9., 11.)

EXTENT-OF-PLAY

Field teams should be equipped with all instruments and supplies necessary to accomplish their mission. This should include instruments capable of measuring gamma exposure rates and detecting the presence of beta radiation. These instruments should be capable of measuring a range of activity and exposure, including radiological protection/exposure control of team members and detection of activity on the air sample collection media, consistent with the intended use of the instrument and the ORO's plans and procedures. An appropriate radioactive check source should be used to verify proper operational response for each low range radiation measurement instrument (less than 1 R/hr) and for high range instruments when available. If a source is not available for a high range instrument, a procedure should exist to operationally test the instrument before entering an area where only a high range instrument can make useful readings.

All activities must be based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless noted above or otherwise indicated in the Extent-of-Play Agreement.

REGION X EXTENT-OF-PLAY

WDOH: All field team equipment will be checked prior to deployment.

Oregon ECC: One Oregon Health Services Field Team will demonstrate the ability to perform environmental monitoring. Field team equipment will be checked in the presence of a FEMA Evaluator at the Hermiston Safety Center before the Field Team is deployed from the facility.

EVALUATION AREA 4: FIELD MEASUREMENT AND ANALYSIS

Sub-element 4.a – Plume Phase Field Measurements and Analyses

Criterion 4.a.2: Field teams are managed to obtain sufficient information to help characterize the release and to control radiation exposure. (NUREG-0654, I.8., 11., J.10.a).

EXTENT-OF-PLAY

Responsible OROs should demonstrate the capability to brief teams on predicted plume location and direction, travel speed, and exposure control procedures before deployment. Field measurements are needed to help characterize the release and to support the adequacy of implemented PAs or to be a factor in modifying PAs. Teams should be directed to take measurements in such locations, at such times to provide information sufficient to characterize the plume and impacts.

If the responsibility to obtain peak measurements in the plume has been accepted by license field monitoring teams, with concurrence from OROs, there is no requirement for these measurements to be repeated by State and local monitoring teams. If the license teams do not obtain peak measurements in the plume, it is the ORO's decision as to whether peak measurements are necessary to sufficiently characterize the plume. The sharing and coordination of plume measurement information among all field teams (licensee, federal, and ORO) is essential. Coordination concerning transfer of samples, including a chain-of-custody form, to a radiological laboratory should be demonstrated.

OROs should use Federal resources as identified in the Federal Radiological Emergency Response Plan (FRERP), and other resources (e.g., compacts, etc), if available. Evaluation of this criterion will take into consideration the level of Federal and other resources participating in the exercise.

All activities must be based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless noted above or otherwise indicated in the Extent-of-Play Agreement.

REGION X EXTENT-OF-PLAY No Limitations

Oregon ECC: The Oregon Health Services Field Team will demonstrate radiation surveys and the collection of two air samples in sequence with day 1 exercise activities. All other sampling including the collection of two water, vegetation, and milk samples will be demonstrated out-of-sequence on day 1.

EVALUATION AREA 4: FIELD MEASUREMENT AND ANALYSIS

Sub-element 4.a – Plume Phase Field Measurements and Analyses

Criterion 4.a.3: Ambient radiation measurements are made and recorded at appropriate locations, and radioiodine and particulate samples are collected. Teams will move to an appropriate low background location to determine whether any significant (as specified in the plan and/or procedures) amount of radioactivity has been collected on the sampling media. (NUREG-0654, I.8., 9., 11.)

EXTENT-OF-PLAY

Field teams should demonstrate the capability to report measurements and field data pertaining to the measurement of airborne radioiodine and particulates to the field team coordinator, dose assessment, or other appropriate authority. If samples have radioactivity significantly above background, the appropriate authority should consider the need for expedited laboratory analyses of these samples. OROs should share data in a timely manner with all appropriate OROs. The methodology, including contamination control, instrumentation, preparation of samples, and a chain-of-custody form for transfer to a laboratory, will be in accordance with the ORO plan and/or procedures.

OROs should use Federal resources as identified in the FRERP, and other resources (e.g., compacts, etc), if available. Evaluation of this criterion will take into consideration the level of Federal and other resources participating in the exercise.

All activities must be must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless noted above or otherwise indicated in the Extent-of-Play Agreement.

REGION X EXTENT-OF-PLAY:

WDOH: Limitations: Each field team will take two air samples. Silver Zeolite cartridges will be simulated and charcoal cartridges will be used.

Field Teams will coordinate directly with WSP for the transfer of air samples to the Laboratory. No actual WSP staff will be dispatched for transfer. Laboratory will not demonstrate receipt of samples.

Oregon ECC: The Oregon Health Services Field Monitoring Team will collect two air samples to demonstrate this criterion.

EVALUATION AREA 4: FIELD MEASUREMENT AND ANALYSIS

Sub-element 4.b – Post Plume Phase Field Measurements and Sampling

Criterion 4.b.1: The field teams demonstrate the capability to make appropriate measurements and to collect appropriate samples (e.g., food crops, milk, water, vegetation, and soil) to support adequate assessments and PA decision-making. (NUREG-0654, I.8., J.11.)

EXTENT-OF-PLAY

The ORO field teams should demonstrate the capability to take measurements and samples, at such times and locations as directed, to enable an adequate assessment of the ingestion pathway and to support re-entry, relocation, and return decisions. When resources are available, the use of aerial surveys and in-situ gamma measurement is appropriate. All methodology, including contamination control, instrumentation, preparation of samples, and a chain-of-custody form for transfer to a laboratory, will be in accordance with the ORO's plan and/or procedures.

Ingestion pathway samples should be secured from agricultural products and water. Samples in support of relocation and return should be secured from soil, vegetation, and other surfaces in areas that received radioactive ground deposition.

OROs should use Federal resources as identified in the FRERP, and other resources (e.g. compacts, nuclear insurers, etc), if available. Evaluation of this criterion will take into consideration the level of Federal and other resources participating in the exercise.

All activities must be must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless noted above or otherwise indicated in the Extent-of-Play Agreement.

REGION X EXTENT-OF-PLAY:

WDOH: Limitations: Transporting and transferring of samples will not be demonstrated for day 2.

Each field team will collect one soil sample, one edible food crop sample at 2 different locations.
One water sample will be taken. Day two-field team sampling locations will be pre determined and controller interjected during the morning of Day two.

Day 2 field team operations will not correlate with MUDAC and State EOC operations.

Oregon ECC: One Oregon Health Services Field Monitoring Team will demonstrate this criterion by taking two air, two water, and two vegetation samples for evaluation.

The Field Team will include a Food Safety Analyst with the Oregon Department of Agriculture. The Food Safety Analyst will demonstrate this criterion for evaluation by collecting two milk samples at a local dairy. The Food Safety Analyst will use the Pasteurized Milk Ordinance (PMO) procedures to collect the samples.

EVALUATION AREA 4: FIELD MEASUREMENT AND ANALYSIS

Sub-element 4.c - Laboratory Operations

Criterion 4.c.1: The laboratory is capable of performing required radiological analyses to support PA decisions. (NUREG-0654, C.3., I.8., 9., J.11)

EXTENT-OF-PLAY

The laboratory staff should demonstrate the capability to follow appropriate procedures for receiving samples, including logging of information, preventing contamination of the laboratory, preventing buildup of background radiation due to stored samples, preventing cross contamination of samples, preserving samples that may spoil (e.g., milk), and keeping track of sample identity. In addition, the laboratory staff should demonstrate the capability to prepare samples for conducting measurements.

The laboratory should be appropriately equipped to provide analyses of media, as requested, on a timely basis, of sufficient quality and sensitivity to support assessments and decisions as anticipated by the ORO's plans and procedures. The laboratory (ies) instrument calibrations should be traceable to standards provided by the National Institute of Standards and Technology. Laboratory methods used to analyze typical radionuclides released in a reactor incident should be as described in the plans and procedures. New or revised methods may be used to analyze atypical radionuclide releases (e.g. transuranics or as a result of a terrorist event) or if warranted by circumstances of the event. Analysis may require resources beyond those of the ORO.

The laboratory staff should be qualified in radioanalytical techniques and contamination control procedures.

OROs should use Federal resources as identified in the FRERP, and other resources (e.g. compacts, nuclear insurers, etc), if available. Evaluation of this criterion will take into consideration the level of Federal and other resources participating in the exercise.

All activities must be based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless noted above or otherwise indicated in the Extent-of-Play Agreement.

REGION X EXTENT-OF-PLAY:

WDOH: Laboratory operations will not be demonstrated at this time. A separate exercise is scheduled for August 2003.

Oregon ECC: Oregon will not demonstrate this criterion during the September 2002 Ingestion Exercise.

EVALUATION AREA 5: EMERGENCY NOTIFICATION & PUBLIC INFORMATION

Sub-element 5.a – Activation of the Prompt Alert and Notification System

Criterion 5.a.1: Activities associated with primary Alert and Notification of the public is completed in a timely manner following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. The initial instructional message to the public must include as a minimum the elements required by current FEMA REP guidance. (10 CFR Part 50, Appendix E & NUREG-0654, E. 1., 4., 5., 6., 7.)

EXTENT-OF-PLAY

Responsible OROs should demonstrate the capability to sequentially provide an ALERT signal followed by an initial instructional message to populated areas (permanent resident and transient) throughout the 10-mile plume pathway EPZ. Following the decision to activate the Alert and Notification system, in accordance with the ORO's plan and/or procedures, completion of system activation should be accomplished in a timely manner (will not be subject to specific time requirements) for primary Alerting/notification. The initial message should include the elements required by current FEMA REP guidance.

OROs with route Alerting as the primary method of Alerting and notifying the public should demonstrate the capability to accomplish the primary route Alerting, following the decision to activate the Alert and Notification system, in a timely manner (will not be subject to specific time requirements) in accordance with the ORO's plan and/or procedures. At least one route needs to be demonstrated and evaluated. The selected route(s) should vary from exercise to exercise. However, the most difficult route should be demonstrated at least once every six years. All Alert and Notification activities along the route should be simulated (that is, the message that would actually be used is read for the evaluator, but not actually broadcast) as agreed upon in the Extent-of-Play. Actual testing of the mobile public address system will be conducted at some agreed upon location. The initial message should include the elements required by current FEMA REP guidance.

For exercise purposes, timely is defined as "the responsible ORO personnel/ representatives demonstrate actions to disseminate the appropriate information/ instructions with a sense of urgency and without undue delay." If message dissemination is to be identified as not having been accomplished in a timely manner, the evaluator(s) will document a specific delay or cause as to why a message was not considered timely.

Procedures to broadcast the message should be fully demonstrated as they would in an actual emergency up to the point of transmission. Broadcast of the message(s) or test messages is not required. The ALERT signal activation may be simulated. However, the procedures should be demonstrated up to the point of actual activation.

The capability of the primary notification system to broadcast an instructional message on a 24-hour basis should be verified during an interview with appropriate personnel from the primary notification system.

All activities for this criterion must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, except as noted above or otherwise indicated in the Extent-of-Play Agreement.

REGION X EXTENT-OF-PLAY:

Benton County: Limitations: No sirens will be activated. No EAS message will be sent. Distribution of information to the public and the media will be simulated. Information flow between the Benton County EOC and the JIC, EOF and Washington State EOC will be demonstrated.

Franklin County: Limitations: Sending of EAS Message will be simulated. All Alert and Notification sequences will be timed for evaluation.

Franklin County EOC Public Information Officer will, upon request, demonstrate process by which Franklin County will activate the EAS system in the event primary source of activation, Benton County Emergency Services (BCES) is inoperable.

Yakima County: **Limitations**: Both English and Spanish messages will be simulated.

WSDA: N/A for WSDA.

WDOH: N/A for WDOH.

Oregon ECC: **N/A in Oregon.**

Sub-element 5.a – Activation of the Prompt Alert and Notification System

Criterion 5.a.2: RESERVED

EXTENT-OF-PLAY

REGION X EXTENT-OF-PLAY:

Sub-element 5.a – Activation of the Prompt Alert and Notification System

Criterion 5.a.3: Activities associated with FEMA approved exception areas (where applicable) are completed within 45 minutes following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. Backup Alert and Notification of the public is completed within 45 minutes following the detection by the ORO of a failure of the primary Alert and Notification system. (NUREG-0654, E. 6., Appendix 3.B.2.c)

EXTENT-OF-PLAY

OROs with FEMA-approved exception areas (identified in the approved Alert and Notification System Design Report) 5-10 miles from the nuclear power plant should demonstrate the capability to accomplish primary alerting and notification of the exception area(s) within 45 minutes following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. The 45-minute clock will begin when the OROs make the decision to activate the Alert and Notification system for the first time for a specific emergency situation. The initial message should, at a minimum, include a Statement that an emergency exists at the plant and where to obtain additional information.

For exception area alerting, at least one route needs to be demonstrated and evaluated. The selected routes should vary from exercise to exercise. However, the most difficult route should be demonstrated at least once every six years. All Alert and Notification activities along the route should be simulated (e.g., the message that would actually be used is read for the evaluator, but not actually broadcast) as agreed upon in the Extent-of-Play. Actual testing of the mobile public address system will be conducted at some agreed upon location.

Backup Alert and Notification of the public should be completed within 45 minutes following the detection by the ORO of a failure of the primary Alert and Notification system. Backup route alerting needs only be demonstrated and evaluated, in accordance with the ORO's plan and/or procedures and the Extent-of-Play Agreement, if the exercise scenario calls for failure of any portion of the primary system(s), or if any portion of the primary system(s) actually fails to function. If demonstrated, only one route needs to be selected and demonstrated. All Alert and Notification activities along the route should be simulated (e.g., the message that would actually be used is read for the evaluator, but not actually broadcast) as agreed upon in the Extent-of-Play. Actual testing of the Public Address system will be conducted at some agreed upon location.

All activities for this criterion must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, except as noted above or otherwise indicated in the Extent-of-Play Agreement.

REGION X EXTENT-OF-PLAY:

Benton County: There are no exception areas within Benton County.

Franklin County: Not Demonstrated. Not Applicable to Franklin County.

WSDA: N/A for WSDA.

WDOH: N/A for WDOH.

Oregon ECC: N/A in Oregon.

Sub-element 5.b – Emergency Information and Instructions for the Public and the Media

Criterion 5.b.1: OROs provide accurate emergency information and instructions to the public and the news media in a timely manner. (NUREG-0654, E. 5.,7., G.3.a., G.4,a.,b.,c.)

EXTENT-OF-PLAY

Subsequent emergency information and instructions should be provided to the public and the media in a timely manner (will not be subject to specific time requirements). For exercise purposes, timely is defined as "the responsible ORO personnel/representatives demonstrate actions to disseminate the appropriate information/instructions with a sense of urgency and without undue delay." If message dissemination is to be identified as not having been accomplished in a timely manner, the evaluator(s) will document a specific delay or cause as to why a message was not considered timely.

The OROs should ensure that emergency information and instructions are consistent with PA decisions made by appropriate officials. The emergency information should contain all necessary and applicable instructions (e.g., evacuation instructions, evacuation routes, reception center locations, what to take when evacuating, information concerning pets, shelter-in-place instructions, information concerning PAs for schools and special populations, public inquiry telephone number, etc.) to assist the public in carrying out PA decisions provided to them. The ORO should also be prepared to disclose and explain the Emergency Classification Level (ECL) of the incident. At a minimum, this information must be included in media briefings and/or media releases. OROs should demonstrate the capability to use language that is clear and understandable to the public within both the plume and ingestion pathway EPZs. This includes demonstration of the capability to use familiar landmarks and boundaries to describe PA areas.

The emergency information should be all-inclusive by including previously identified PA areas that are still valid, as well as new areas. The OROs should demonstrate the capability to ensure that emergency information that is no longer valid is rescinded and not repeated by broadcast media. In addition, the OROs should demonstrate the capability to ensure that current emergency information is repeated at pre-established intervals in accordance with the plan and/or procedures.

OROs should demonstrate the capability to develop emergency information in a non-English language when required by the plan and/or procedures.

If ingestion pathway measures are exercised, OROs should demonstrate that a system exists for rapid dissemination of ingestion pathway information to pre-determined individuals and businesses in accordance with the ORO's plan and/or procedures.

OROs should demonstrate the capability to provide timely, accurate, concise, and coordinated information to the news media for subsequent dissemination to the public. This would include demonstration of the capability to conduct timely and pertinent media briefings and distribute media releases as the situation warrants. The OROs should demonstrate the capability to respond appropriately to inquiries from the news media. All information presented in media briefings and media releases should be consistent with PA decisions and other

emergency information provided to the public. Copies of pertinent emergency information (e.g., EAS messages and media releases) and media information Kits should be available for dissemination to the media.

OROs should demonstrate that an effective system is in place for dealing with calls to the public inquiry hotline. Hotline staff should demonstrate the capability to provide or obtain accurate information for callers or refer them to an appropriate information source. Information from the hotline staff, including information that corrects false or inaccurate information when trends are noted, should be included, as appropriate, in emergency information provided to the public, media briefings, and/or media releases.

All activities for this criterion must be based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless noted above or otherwise indicated in the Extent-of-Play Agreement.

REGION X EXTENT-OF-PLAY:

Benton County: Limitations: Distribution of Press Releases, agricultural advisories, additional information releases or pre-printed materials to the media and public will be simulated. Information flow between the Benton County EOC and the JIC, EOF and Washington State EOC will be demonstrated.

Franklin County: Limitations: Copies of additional emergency information messages, Press Releases, and agricultural advisories will be coordinated with, and in the event a hard copy is not available at the JIC, will be transmitted to the JIC and other participating centers as required. Preprinted material will be available at the Franklin County EOC for evaluator review.

Sending of the Additional Information Message is coordinated with KONA Radio.

Yakima County: Limitations: The Yakima Valley Primary Emergency Operations Center will establish a bank of public concern telephones, advertise such to the electronic media, and respond to the public. A Public Information Officer will establish and maintain contact with the media. Media releases will be coordinated with appropriate officials representing the cities of Sunnyside and Grandview. Both English and Spanish will be demonstrated in media releases.

WDOH: Limitations: WDOH will send one health physicist as the technical spokesperson to the JIC.

Oregon ECC: While multiple News Releases will be developed to demonstrate this criterion, only one news conference will be conducted. The news conference will be conducted after Oregon has made ingestion decisions and established a Food Control Boundary and Food Control Points.

Note: The Oregon ECC Public Information Team will demonstrate the ability to effectively address a rumor to close an ARCA from the September 2000 exercise.

The news conference will be demonstrated at the Oregon Office of Energy's Conference Rooms C-D. The News Center located at the Employment Division Auditorium; 875 Union Street NE in Salem will not be used for this demonstration.

The Public Information Officer at the Oregon ECC will determine when to activate and staff the Telephone Information Center (Rumor Control).

Once the PIO activates the Telephone Information Center, the Telephone Information Center will be staffed and operational for two hours on Day 1 of the exercise. On Day 2, a controller inject will be used to activated the Telephone Information Center for operation.

Morrow and Umatilla County EOCs will demonstrate this criterion for evaluation in an out-of-sequence drill on July 16, 2003.

EVALUATION AREA 6: SUPPORT OPERATION/FACILITIES

Sub-element 6.a – Monitoring and Decontamination of Evacuees and Emergency Workers, and Registration of Evacuees

Criterion 6.a.1: The reception center/Emergency Worker facility has appropriate space, adequate resources, and trained personnel to provide monitoring, decontamination, and registration of evacuees and/or Emergency Workers. (NUREG-0654, J.10.h.; K.5.b.)

EXTENT-OF-PLAY

Radiological monitoring, decontamination, and registration facilities for evacuees/ Emergency Workers should be set up and demonstrated as they would be in an actual emergency or as indicated in the Extent-of-Play Agreement. This would include adequate space for evacuees' vehicles. Expected demonstration should include 1/3 of the monitoring teams/portal monitors required to monitor 20% of the population allocated to the facility within 12 hours. Before using a monitoring instrument(s), the monitor(s) should demonstrate the process of checking the instrument(s) for proper operation.

Staff responsible for the radiological monitoring of evacuees should demonstrate the capability to attain and sustain a monitoring productivity rate per hour needed to monitor the 20% emergency planning zone (EPZ) population planning base within about 12 hours. This monitoring productivity rate per hour is the number of evacuees that can be monitored per hour by the total complement of monitors using an appropriate monitoring procedure. A minimum of six individuals per monitoring station should be monitored, using equipment and procedures specified in the plan and/or procedures, to allow demonstration of monitoring, decontamination, and registration capabilities. The monitoring sequences for the first six simulated evacuees per monitoring team will be timed by the evaluators in order to determine whether the twelve-hour requirement can be meet. Monitoring of Emergency Workers does not have to meet the twelve-hour requirement. However, appropriate monitoring procedures should be demonstrated for a minimum of two Emergency Workers.

Decontamination of evacuees/Emergency Workers may be simulated and conducted by interview. The availability of provisions for separately showering should be demonstrated or explained. The staff should demonstrate provisions for limiting the spread of contamination. Provisions could include floor coverings, signs and appropriate means (e.g. partitions, roped-off areas) to separate clean from potentially contaminated areas. Provisions should also exist to separate contaminated and uncontaminated individuals, provide changes of clothing for individuals whose clothing is contaminated, and store contaminated clothing and personal belongings to prevent further contamination of evacuees or facilities. In addition, for any individual found to be contaminated, procedures should be discussed concerning the handling of potential contamination of vehicles and personal belongings.

Monitoring personnel should explain the use of action levels for determining the need for decontamination. They should also explain the procedures for referring evacuees who cannot be adequately decontaminated for assessment and follow up in accordance with the ORO's plans and procedures. Contamination of the individual will be determined by controller inject and not simulated with any low-level radiation source.

The capability to register individuals upon completion of the monitoring and decontamination activities should be demonstrated. The registration activities demonstrated should include the establishment of a registration record for each individual, consisting of the individual's name, address, results of monitoring, and time of decontamination, if any, or as otherwise designated in the plan. Audio recorders, camcorders, or written records are all acceptable means for registration.

All activities associated with this criterion must be based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless noted above or otherwise indicated in the Extent-of-Play Agreement.

REGION X EXTENT-OF-PLAY:

Benton County: Not demonstrated by Benton County this year.

Franklin County: Limitations: OUT OF SEQUENCE DEMONSTRATION: September 21, 2002, Columbia Basin College Emergency Worker Assistance Center (EWAC). The bulk of the simulated evacuees and their personal items will be monitored at the Portal Monitor Station. Handheld monitoring of persons will coincide with the decontamination of personnel.

Limitations: Monitoring of individuals using hand held radiation detectors would be limited to ONE person of each gender. Decontamination will be limited to ONE person of each gender. Individuals being decontaminated will not disrobe and, other than localized decontamination (hands, forearms, face), any decontamination activities will be simulated by the Decontamination Station personnel.

Decontamination Station personnel will not conduct ANY invasive sampling techniques.

WSDA: N/A.

WDOH: WDOH will send 1 Health Physicist and one person to track doses received by Emergency Workers.

One male health physicist and one female health physicist will be available for support of decontaminating Emergency Workers and general public. A senior Health physicist will be available for support activities through out the entire EWAC.

Limitations will be in conjunction with Franklin County. The person tracking the monitoring and doses will demonstrate the ability to track 2 Emergency Workers.

Oregon ECC: N/A in Oregon.

Sub-element 6.b – Monitoring and Decontamination of Emergency Worker Equipment

Criterion 6.b.1: The facility/ORO has adequate procedures and resources for the accomplishment of monitoring and decontamination of Emergency Worker equipment including vehicles. (NUREG-0654, K.5.b)

EXTENT-OF-PLAY

The monitoring staff should demonstrate the capability to monitor equipment, including vehicles, for contamination in accordance with the ORO's plans and procedures. Specific attention should be given to equipment, including vehicles that were in contact with individuals found to be contaminated. The monitoring staff should demonstrate the capability to make decisions on the need for decontamination of equipment including vehicles based on guidance levels and procedures Stated in the plan and/or procedures.

The area to be used for monitoring and decontamination should be set-up as it would be in an actual emergency, with all route markings instrumentation, record keeping and contamination control measures in place. Monitoring procedures should be demonstrated for a minimum of one vehicle. It is generally not necessary to monitor the entire surface of vehicles. However, the capability to monitor areas such as radiator grills, bumpers, wheel wells, tires, and door handles should be demonstrated. Interior surfaces of vehicles that were in contact with individuals found to be contaminated should also be checked.

Decontamination capabilities, and provisions for vehicles and equipment that cannot be decontaminated, may be simulated and conducted by interview.

All activities associated with this criterion must be based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless noted above or otherwise indicated in the Extent-of-Play Agreement.

REGION X EXTENT-OF-PLAY

Benton County: Not demonstrated by Benton County this year.

Franklin County: Out of Sequence Demonstration September 21, 2002, Columbia Basin College Emergency Worker Assistance Center (EWAC).

Limitations: Monitoring of two and Decontamination of one Emergency Worker vehicle will be demonstrated. Appropriate Emergency Worker equipment will be monitored and if necessary, decontaminated.

WSDA: N/A for WSDA.

Oregon ECC: N/A in Oregon.

Sub-element 6.c - Temporary Care of Evacuees

Criterion 6.c.1: Managers of congregate care facilities demonstrate that the centers have resources to provide services and accommodations consistent with American Red Cross planning guidelines (found in MASS CARE-Preparedness Operations, ARC 3031). Managers demonstrate the procedures to assure that evacuees have been monitored for contamination and have been decontaminated as appropriate prior to entering congregate care facilities. (NUREG-0654, J.10.h., 12.)

EXTENT-OF-PLAY

Under this criterion, demonstration of congregate care centers may be conducted out of sequence with the exercise scenario. The evaluator should conduct a walk-through of the center to determine, through observation and inquiries, that the services and accommodations are consistent with ARC 3031. In this simulation, it is not necessary to set up operations, as they would be in an actual emergency. Alternatively, capabilities may be demonstrated by setting up stations for various services and providing those services to simulated evacuees. Given the substantial differences between demonstration and simulation of these criteria, exercise demonstration expectations should be clearly specified in Extent-of-Play Agreements.

Congregate care staff should also demonstrate the capability to ensure that evacuees have been monitored for contamination, have been decontaminated as appropriate, and have been registered before entering the facility. This capability may be determined through an interview process.

If operations at the center are demonstrated, material that would be difficult or expensive to transport (e.g., cots, blankets, sundries, and large-scale food supplies) need not be physically available at the facility(ies). However, availability of such items should be verified by providing the evaluator a list of sources with locations and estimates of quantities.

All activities associated with this criterion must be based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless noted above or otherwise indicated in the Extent-of-Play Agreement.

REGION X EXTENT-OF-PLAY:

Benton County: Not demonstrated by Benton County this year.

Franklin County: Out of Sequence Demonstration on September 21, 2002, at Columbia Basin College Emergency Worker Assistance Center (EWAC).

Yakima County: The Yakima Valley Primary Emergency Operations Center will utilize the local chapter of the American Red Cross to coordinate the establishing of congregate care facilities. Sites will be identified and procedures consistent with the ARC will be demonstrated.
Limitations: No actual opening of sites will be demonstrated.

WSDA: N/A for WSDA.

Oregon ECC: N/A in Oregon.

Sub-element 6.d - Transportation and Treatment of Contaminated Injured Individuals

Criterion 6.d.1: The facility/ORO has the appropriate space, adequate resources, and trained personnel to provide transport, monitoring, decontamination, and medical services to contaminated injured individuals. (NUREG-0654, F.2, H.10., K.5.a.b., L.1., 4.)

EXTENT-OF-PLAY

Monitoring, decontamination, and contamination control efforts will not delay urgent medical care for the simulated victim.

OROs should demonstrate the capability to transport contaminated injured individuals to medical facilities. An ambulance should be used for the response to the victim. However, to avoid taking an ambulance out of service, any vehicle (e.g., car, truck, or van) may be utilized to transport a simulated victim to the medical facility. Normal communications between the ambulance/ dispatcher and the receiving medical facility should be demonstrated. If a substitute vehicle is used for transport to the medical facility, this communication must occur prior to releasing the ambulance from the drill. This communication would include reporting radiation-monitoring results, if available. Additionally, the ambulance crew should demonstrate, by interview, knowledge of where the ambulance and crew would be monitored and decontaminated, if required, or whom to contact for such information.

Monitoring of the simulated victim may be performed before transport, done en route, or deferred to the medical facility. Before using a monitoring instrument(s), the monitor(s) should demonstrate the process of checking the instrument(s) for proper operation. All monitoring activities should be completed, as they would be in an actual emergency. Appropriate contamination control measures should be demonstrated prior to and during transport and at the receiving medical facility.

The medical facility should demonstrate the capability to activate and set up a radiological emergency area for treatment. Equipment and supplies should be available for the treatment of contaminated injured individuals.

The medical facility should demonstrate the capability to make decisions on the need for decontamination of the individual, to follow appropriate decontamination procedures, and to maintain records of all survey measurements and samples taken. All procedures for the collection and analysis of samples and the decontamination of the individual should be demonstrated or described to the evaluator.

All activities associated with this criterion must be based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless noted above or otherwise indicated in the Extent-of-Play Agreement.

REGION X EXTENT-OF-PLAY:

Benton County: Limitations: Benton County demonstration limited to Kadlec Medical Center and Richland Fire Department.

This drill is a carry over of a mini-scenario within the September 17, 2002 exercise, which will involve a person down at the Columbia Generating Station. The evaluation shall not involve any agencies other than Richland Fire Department, Kadlec Medical Center and radiation health physics personnel from Energy Northwest or the Washington State Department of Health, Radiation Protection Division.

Upon receiving notification that the FEMA evaluator is in place, the play shall begin with a call to SE-COMM. SE-COMM shall then dispatch an ambulance and Richland Fire Department personnel as provided by standard operating procedure.

The Radiation Controller shall input the simulated contamination information at the scene and as needed during exercise play.

The length of the field demonstration is limited to the period of time necessary to allow the evaluator to observe the arrival of the dispatched personnel, observe the transfer of the patient to the Richland Fire Department and allow the evaluator to interview the personnel assigned to the field demonstration.

Emergency vehicles involved in the demonstration are not required to utilize sirens or travel in excess of the posted speed limit. To reduce the out-of service time for the ambulance, the transfer of the patient from Energy Northwest personnel to the Richland Fire Department will be demonstrated in a parking lot near the 3000 Building on George Washington Way rather than in the Protected Area or at the gate to the Protected Area.

Once the area outside the emergency room has been set-up and checked by the evaluator, ropes, signs and barricades can be removed.

The length of the Emergency Room demonstration shall be limited to the period of time necessary to allow the evaluator to observe the arrival of the patient, observe the contamination control measures employed by the Kadlec Medical Center, observe the transfer of the patient to a treatment and examination room within the Emergency Department or to another area within the hospital, observe hospital personnel exiting the contaminated area and allow the evaluator to interview the personnel assigned to the Emergency Room demonstration.

Radioactive contamination will be simulated only. Injuries will be simulated only. Only one simulated victim shall be involved. Any signs or stickers posting or marking material as radioactive shall also be marked with "DRILL".

The demonstration shall be terminated in the event of an actual emergency requiring the services of any of the personnel elsewhere.

Franklin County: Out of Sequence Demonstration: Tentatively scheduled for June 2004. Pasco Fire Department and Lourdes Medical Center.

WSDA: N/A for WSDA.

Oregon ECC: N/A in Oregon.

APPENDIX 4

EXERCISE SCENARIO

This appendix contains a summary of the simulated sequence of events -- Exercise Scenario utilized as the basis for invoking emergency response actions by OROs in the Columbia Generating Station exercise on September 17 and 18, 2002.

DRILL SCENARIO TIMELINE

6.1 NARRATIVE SUMMARY

Initial Conditions

For the past 230 days Columbia Generating Station has been operating at or near 100% power.

The temperature is 68°F with winds from the northwest at 3 mph. It is an overcast morning with front moving through the area and light precipitation in the forecast later in the afternoon. Clearing is not expected for the next 24 hours.

The plant entered Technical Specification LCO 3.4.2 at 0400 and is required to be in Mode 3 by 1600. Jet Pump daily surveillance (SR 3.4.2.1) failed when it was performed. Jet Pumps #5 and 6 indicated reduced flow. Reactor power is currently at approximately 85%. The plan is to have power down to 60% by 1000 and be in MODE 3 before 1600. Containment de-inerting is in progress via SGT train 'A'.

All three-service water pumps are in service to support H2O2 (Hydrogen Peroxide) chemical addition.

A normal reactor shutdown is in progress, currently at Step 5.1.14 of PPM 3.2.1 (At approximately 950 MWe, INITIATE removal of feedwater heater groups 1 and 2 from service per PPM 2.2.7.)

1. Inoperable equipment

Transformer TR-S was taken out of service yesterday due to a ground being discovered on the 4.16kV Y winding of TR-S. Electrical Maintenance located the problem and parts have been ordered. It is estimated that parts will be on site at 1700 and TR-S will be returned to service at 2100, Tuesday September 17. Technical Specification 3.8.1 condition A has been entered. Surveillance 3.8.1.1 (breaker alignment and offsite power availability) was completed at 0500 this morning.

2. Narrative

The scenario starts with a plant shutdown in progress due to a Technical Specification LCO 3.4.2 entered at 0300. Jet pumps number 5 and 6 are indicating degraded flow. Primary Containment wetwell purging is in progress using SGT train "A." All service water pumps are operating to support chemical addition of hydrogen peroxide per the normal injection schedule.

0730
The first event is a fire alarm in the 'A' SW Pumphouse. At the same time a 2222 call will come in to the Control Room reporting smoke coming from the 'A' SW Pumphouse. The fire will damage the motor and the cabling to HPCS-P-2. HPCS-P-2 will trip off. (Fire Brigade should be called to respond.)

The fire will already be extinguished when the fire brigade gets there due to the breaker for the HPCS-P-2 opening. They will report damage to HPCS-P-2 to the Control Room. Technical Specification 3.7.2 condition A will be entered requiring that the CR declare the HPCS system inoperable immediately. Technical Specification 3.5.1 condition B will be entered, a 14 day LCO.

The crew will declare an ALERT per 9.2.A.1 'Confirmed fire or explosion in a Safe Shutdown Building and Affected safe shutdown system parameters indicate degraded performance or report by plant personnel of visible damage to the affected safe shutdown building or equipment contained within the safe shutdown building".

Note: A failure of the Met Tower card should be recognized while completing the CNF form for the ALERT declaration. All meteorological indication at (P823-02) will read downscale but normal indication will be available on PPCRS. (Maintenance should be requested to investigate and repair the problem.)

0735
Emergency notifications are made and the ERO is activated.

The crew will refer to ABN-FIRE. The crew will also refer to ABN-SW due the loss of HPCS-P-2. The Control Room will direct that the HPCS DG be prevented from starting by closing its air start isolation valves.

Additionally T.S. 3.8.1 condition D may be considered by the crew. (a note excludes this from being required if HPCS is previously INOP). This LCO requires the HPCS DG or TR-S be restored within 12 hours of be in Mode 3 in 12 hours and Mode 4 in 36 hours.
(A maintenance team should be sent to investigate and repair the problem.)

0840
There will be a man down in the Radwaste Building 437 elevation. A laborer that was transporting a bottle of potentially contaminated water to the Chemistry Lab for analysis will have slipped on something on the floor. The fall will break the individuals right arm. The water bottle that contained about 500 ml (1 cup) of liquid will have broken when he fell. His back and left shoulder area will be wet (The First Responders should be called away).

The man will be transported to the gate and then that problem will be terminated and picked up two days later and support a MS1 drill with the Richland FD and Kadlec hospital.

A transponder card will fail on the RDCS resulting in the inability to move control rods other than by scram. (A maintenance team should be sent to investigate and repair the problem.)

Events occur during the next hour that set up a radiological release to the environment.

0925

The next event is a catastrophic failure of number 5 and 6 jet pumps. The failure will cause loose parts to be swept up into the core. Primary system radiation levels will increase due to failed fuel. The crew will scram the reactor due to the core damage indications.

A full hydraulic ATWS will occur on the scram.

0940
The crew will declare a SITE AREA EMERGENCY per 2.2.S.1 'Any RPS setpoint (including manual) has been exceeded per T.S. 3.3.1.1 and RPS actuation failed to result in a control rod pattern which alone always assures reactor shutdown under all conditions and Reactor power GT 5%".

The crew will enter PPM 5.1.1 and exit to PPM 5.1.2. Reactor power will be approximately 45%. The crew will initiate SLC. SLC will fail to initiate because of a failure of the suction valves to open (A repair team should be sent to investigate and repair the problem.) There will be a success path for the repair team, however, the return of SLC will not affect the release.)

The crew will perform PPM 5.5.10 and 5.5.11 to insert control rods. Scram reset scram will not work to insert rods but the crew will have limited success driving control rods.

The crew will decrease RPV level to between –161" and –65". RCIC will be prevented from starting by the crew to keep the Main Turbine on the line. Feed and Condensate will be utilized to maintain RPV level.

1000
Repair team opens a suction valve for the SLC pumps and the pumps start and inject boron into the RPV. Power will decease to the point that the Main Turbine trips on TG motoring.

When the turbine trips, SM-1, SM-2, SM-3, SH5 and SH-6 will become deenergized due to TR-S not being available. Due to this the feed and condensate system is not available. OSC power is also lost.

The MSIVs will close due to a loss of power to the RPS busses and RPV pressure will be via the SRV's.

Crew should restart RCIC and CRD for level control.

The only electrical power will be from TR-B that will close onto SM-7 and SM-8. DG-1 and DG-2 will start on the loss of power to SM-7 and SM-8.

1015
SM-4 will become de-energized due to loss of power from SM-2 and the HPCS DG being prevented from starting due to the service water pump failure. HPCS-P-1 will not be available at this point.

A small LOCA will develop and drywell pressures will start to slowly increase. The crews may have to spray but will have RHR B. DW pressure will increase to GT 1.68# initiation signal or level will lower to –129 level 1 initiation of ECCS systems.

RHR-P-2A will fail to start on the ECCS start signal due to a breaker problem on SM-7. (A repair team should be sent to investigate and repair the problem.) A lockout on SM-8 occurs due to a fault in the 2C pump motor and the breaker failing to trip. This causes RHR-P-2B and RHR-P-2C to lose power (A repair team should be sent to investigate and repair the problem.)

1045
The LOCA will get progressively larger. Primary Containment pressure will increase quickly. Due to a failure of CEP-V-3A and CEP-V-4A to isolate and to a failure of the piping downstream of CEP-V-4A, a release will begin from the Reactor Building through the SGT system.

The leak will eventually get larger than the ability of feed sources and RPV level will continue to decrease to LT –192".

1055
The Emergency Director will declare a GENERAL EMERGENCY per 2.1.G.2 "RPV level LT –192 inches and failure of both containment isolation valves in any one line to close following auto or manual initiation AND downstream pathway to the environment exists.

When RPV level decreases to LT –192", the crew will enter PPM 5.1.5 and Emergency Depressurize the RPV.

RPV level will fall below indicated range on Fuel Zone level indicators but when RPV pressure decreases to within injection pressure of LPCS, RPV level will be returned to GT –192".

1120
Repair team replaces the fuses for RHR-P-2A
RHR-P-2A breaker will be fixed and the crew will start the pump. The crew will direct Wetwell and Drywell sprays be initiated. This will cause Primary Containment pressure to decrease.

1200
With the decreasing pressure in containment, CEP-V-4A will close.
The release will be terminated due to the decrease in Primary Containment pressure and also by the closing of CEP-V-1A.

Timeline Summary

0700: Start Scenario Crew performs shift turnover

0730: Fire alarm on FCP-1 for a fire in the A SW Pumphouse. Security calls 2222 and reports smoke emanating from the Pumphouse.

0735: Fire Brigade dispatched.

0735: ALERT Classification (9.2.A.1)

0830: Centers Manned

0840: Control Room receives a 2222 emergency call - Man down reported in the Radwaste Building 437' elevation – First responders dispatched.

0925: Catastrophic failure of jet pumps results in some fuel damage and increased radiation in the reactor coolant.

0935: ATWS occurs when inserting manual scram

0940: SAE Classification (2.2.S.1)

1000: SLC restored

1045: CEP line failure, beginning of release –

1050: LOCA exceeds feed capacity, RPV level LT –192"

1055: General Emergency Classification (2.1.G.2)

1120: RHR-P-2A restored and PC/P reduced

1200: CEP-V-4A closed, Termination of release

1230: Security Event (does not effect the scenario)

1430: Transition of MUDAC to State of WA

1445: Transition of JIC to State of WA

6.2 PROCEDURAL LIMITATIONS

In addition to the precautions and limitations provided in Section 2.4, the Controllers must impose the following additional procedural limitations when the associated conditions are met. These limitations shall NOT be provided to Players during the initial Player briefings in order to prevent "prompting" them in advance on conditions that will occur during the scenario sequence of events. In some cases, messages will be available to Controllers in order to assist them in the implementation of these limitations.

a. The non-essential personnel evacuation process for both the Protected Area and Exclusion Area evacuations will not occur, i.e., procedural steps will be performed but actual personnel movement will be simulated. Protected Area accountability will be performed using Players only. The offsite assembly area will not be activated.

   Site 1 sirens and actual personnel evacuation will be simulated. All other Site 1 evacuation procedures will be demonstrated.

b. The ERO Automated Notification System will be activated using the drill code of 555 (which will display the 222 Drill code on the pagers) and not the actual event code of 444.

c. Sirens will not be activated during simulated notification processes. (The Plant Alerting tone, however, will be used over the public address system when required.)

d. The Post Accident Sampling System (PASS) will not be used to draw an actual RCS sample.

e. Air samples will be taken using charcoal or training cartridges rather than the actual silver zeolite filter cartridges in inventory.

f. Environmental field samples will be limited to air, soil, non-farm vegetation, and water. Snow, ice, garden produce, and milk samples will not be collected. Samples will not be returned to the lab for analysis.

6.3 SIMULATOR SETUP

1. Reset Simulator to IC-117
2. Load file: type "BAT EPNRC2002.txt" in Expert window.
3. Set external parameters as follows:

   - Maintain wind direction from 325□ from 0700 to 1200
   - Set ambient temperature to 68□F
   - Set delta-T to -1.5□ (Stability Class D)
   - Maintain wind speed at 3 MPH from 0700 to 1200

6.4 TIMELINE

For the past 230 days Columbia Generating Station has been operating at or near 100% power.

The temperature is 68°F with winds from the northwest at 3 mph. It is an overcast morning with front moving through the area and light precipitation in the forecast later in the afternoon. Clearing is not expected for the next 24 hours.

The plant entered Technical Specification LCO 3.4.2 at 0400 and is required to be in Mode 3 by 1600. Jet Pump daily surveillance (SR 3.4.2.1) failed when it was performed. Jet Pumps #5 and 6 indicated reduced flow. Reactor power is currently at approximately 85%. The plan is to have power down to 60% by 1000 and be in MODE 3 before 1600. Containment de-inerting is in progress via SGT train 'A'.

All three-service water pumps are in service to support H2O2 (Hydrogen Peroxide) chemical addition.

A normal reactor shutdown is in progress, currently at Step 5.1.14 of PPM 3.2.1 (At approximately 950 MWe, INITIATE removal of feedwater heater groups 1 and 2 from service per PPM 2.2.7.)

3. Inoperable equipment

Transformer TR-S was taken out of service yesterday due to a ground being discovered on the 4.16 KV Y winding of TR-S. Electrical Maintenance located the problem and parts have been ordered. It is estimated that parts will be on site at 1700 and TR-S will be returned to service at 2100, Tuesday September 17. Technical Specification 3.8.1 condition A has been entered. Surveillance 3.8.1.1 (breaker alignment and offsite power availability) was completed at 0500 this morning.

Clock Time	Event Time	Description	Message Number
0700	-0030	The Shift Manager is briefed in the Simulator Control Room and the Drill Authorization Form is approved.	
0710	-0020	Initial plant conditions (refer to Section 6.1) are established with the drill crew at the Simulator. The crew is then given some time to walk the boards down. Note: The Simulator will be used to conduct Control Room Operator response measures. An off-shift Operations crew will be pre-staged and briefed at the Simulator. Non-control room personnel will be released after the briefing to return to the plant. Pre-designated Maintenance, Chemistry and Radiation Protection personnel will assemble at the OSC once it is activated. A "Drill Phone List" will be provided to Players so they know how to contact locations that have been established for drill purposes.	1
0720	-0010	The Lead Controller at the Simulator will direct an initial Plant and Industrial Area PA message to announce the start of the drill.	2

Clock Time	Event Time	Description	Message Number
0730	0000	**Fire in the A SW Pumphouse; HPCS-P-2 trips off. (EQ-04)** **Security contacts Control Room on X8322 (X2222) and reports smoke coming from the A SW Pump house. (EQ-03)** **MET Tower card failure – Board L indications fail downscale.** **CR will request DG –3 air start valves isolated to prevent DG auto start. (EQ-05)** ***NOTE: This may occur any time after the loss of HPCS-P-2 is recognized. Actual time will depend on crew response time to the event.***	TRG 1 3 TRG 10 TRG 2
0735	0005	**Shift Manager declares an ALERT per 9.2.A.1. Confirmed fire or explosion in a Safe Shutdown Building and Affected safe shutdown system parameters indicate degraded performance or report by plant personnel of visible damage to the affected safe shutdown building or equipment contained within the safe shutdown building.** **Crew notes failure of Met Tower input on Board L when completing ALERT notification CNF Form. Crew utilizes PPCRS input to complete CNF form.**	
0740	0010	**Technical Specification 3.7.2 condition A will be entered requiring that the CR declare the HPCS system inoperable immediately. Technical Specification 3.5.1 condition B will be entered, a 14 day LCO.** **Additionally T.S. 3.8.1 condition D may be considered by the crew. (a note excludes this from being required if HPCS is previously INOP. This LCO requires the HPCS DG or TR-S be restored within 12 hours of be in Mode 3 in 12 hours and Mode 4 in 36 hours.**	
0745	0015	**Contingency message in the event an ALERT has not been declared by this time.**	
0830	0100	**All Emergency Centers are manned.**	
0840	0110	**Control room gets a report of a man down in the Radwaste Building and calls away the First Responders. (EQ-18)**	5
		Simulator Controller: If necessary to recover from a simulator problem, restart from IC-xx	
0900	0130	**Transponder card failure occurs which causes a failure of the Rod Drive Control System and the inability of the CR operators to drive control rods. (EQ- 14)**	TRG 8
0925	0155	**Catastrophic failure of jet pumps 5 and 6 initiates. This results in increased RRC Pump vibrations and some fuel damage due to metallic material impinging on the core fuel elements.**	TRG 3

Clock Time	Event Time	Description	Message Number
0930	0200	Due to the failed jet pumps: Reactor power drops by about 5% The crew will insert a manual scram due to increased radiation alarms and degrading plant conditions. Hydraulic ATWS occurs and crew enters PPM 5.1.2. (EQ-7) Reactor power ends up at about 10 - 13% after RRC/P's off and RPV level decreased. (Conditions are met for EAL 2.2.S.1 – SAE)	
0940	0210	Emergency Director declares an SITE AREA EMERGENCY due to 2.2.S.1. Any RPS setpoint (including manual) has been exceeded per T.S. 3.3.1.1 and RPS actuation failed to result in a control rod pattern, which alone always assures reactor shutdown under all conditions and Reactor power GT 5%.). Offsite notifications and PARs (PA Recommendations) are made. An announcement is made to evacuate the Protected Area. (Any evacuations will be simulated	6 7
0945	0215	Contingency message in the event a Site Area Emergency has not been declared by this time.	
0945	0215	Crew initiates Standby Liquid Control – system fails to initiate as suction valves fail to open. (EQ-6) Crew performs PPM 5.5.6 to keep MSIVs open. Crew prevents RCIC start to keep Main Turbine on the line. Crew stops and prevents injection and lowers RPV level and maintains level between –65" and –192". Crew performs PPM 5.5.10 and PPM 5.5.11 to S/D the reactor.	
0950	0220	The Control Room may request a repair team to individually insert control rods by manually venting the over-piston areas. (Refer to mini-scenario EQ-15.)	
0950	0220	The Control Room may requests the TSC initiate alternate boron injection using RWCU per PPM 5.5.8. (Refer to mini-scenario EQ-16.)	
0950	0220	The control room may request a Repair Team to initiate isolation of the CRD charging header to allow individual control rod insertion.	
1000	0230	Repair Team opens suction valve(s) and SLC pumps start SLC injection Reactor power starts to decrease due to SLC injection.	
		Simulator Controller: If necessary to recover from a simulator problem, restart from IC-xx	

Clock Time	Event Time	Description	Message Number
1005	0235	Main Turbine trips due to reverse power on the generator as power is reduced by SLC; feed and condensate are lost due to TR-S not being available. OSC power is also lost. Crew initiates RCIC and restarts CRD for level control. Crew requests Repair Team be sent to restart CAS air compressors and RPS A.	TRG 21 TRG 23
1015	0245	Small leak initiates in the DW to get DW pressure GT 1.68# (pressure gets to 7.5# in DW in 20 minutes)). ECCS may start due to –129" RPV level or 1.68# DW pressure due to loss of cooling. Drywell pressure exceeds 1.68# or level reached –129". CEP-V-3A and CEP-V-4A fail to close on FAZ signal. (Leak path) (Refer to mini-scenario EQ-10) RHR-P-2A fails to start due to blown closing fuse. (Refer to mini-scenario EQ-09)	D. (if needed)
1030	0300	RHR-P-2C motor over-current, breaker fails to trip and results in a lockout on SM-8 (Refer to mini-scenario EQ-08)	
1035	0305	The PSF Ambulance Bay Security Officer calls in to inform the EOF Security Manager of the number of plant evacuees who have reported to the assembly area. This is a simulated figure since Protected Area evacuation will be simulated.	9
1045	0315	LOCA starts RPV level decreases and DW/WW pressure increases.	TRG 6
1045	0315	LOCA exceeds capacity of RCIC/CRD/SLC systems and level drops to LT –192" requiring crew to ED. Crew emergency depressurizes the RPV. RPV level drops to below indicated on Fuel Zone indication. MARFP is reached (143# RPV pressure) and the crew utilizes LPCS to feed vessel and recover RPV level	
1050	0320	Failure of CEP piping between CEP-V-3A and CEP-V-4A RELEASE BEGINS. The piping failure gets progressively larger until CEP pipe totally fails. DW/WW Pressure initially increases but decreases significantly due to CEP piping failure.	TRG 7

Clock Time	Event Time	Description	Message Number
1055	0325	ARM readings in the Reactor building increase as well as readings on radiation monitors in the Reactor Building Ventilation Exhaust and primary containment.	
1055	0325	Emergency Director declares a GENERAL EMERGENCY due to 2.1.G.2. RPV level LT –192 inches and failure of both containment isolation valves in any one line to close following auto or manual initiation AND downstream pathway to the environment exists, or due to Emergency Director discretion (10.1.G.1 or 10.1.G.2).	10X
1100	0330	RDCS operation may be restored. (Refer to mini-scenario EQ-14.) NOTE: Simulator Controller should not restore RDCS until Control Room staff "reset" at RDCS panel.	
		Simulator Controller: If necessary to recover from a simulator problem, restart from IC-xx	
1100	0330	Contingency message in the event a General Emergency has not been declared by this time.	11X
1100	0330	Lead Controllers advise Support/Admin. Managers at each emergency center that lunches have been delivered to each Energy Northwest emergency center.	12
1115	0345	Environmental Field Teams begin tracking the plume.	13
1120	0350	Repair Team replaces closing fuse for RHR-P-2A. (Delete malfunction on RHR-P-2A breaker). Crew uses RHR-P-2A to spray containment if needed.	
1155	0425	Wind speed and direction change	TRG 11
1200	0430	CEP-V-4A closes due to reduced pressure in the Primary Containment. (Delete malfunction on CEP-V-4A) RELEASE IS TERMINATED. Crew notes CEP-V-4A closed on GDS and may also notice a slight DW/WW pressure increase.	
1210	0440	State field teams collect air samples.	
		Simulator Controller: If necessary to recover from a simulator problem, restart from IC-xx	
1215	0445	Reactor Building area and exhaust monitor readings begin to decrease.	
1230	0500	Security Event (EQ-17)	

Clock Time	Event Time	Description	Message Number
1300	0530	Field Teams confirm decreasing dose rates in the plume near the site boundary.	
1400	0630	Discussions are held with the offsite officials regarding transfer of offsite emergency response authority while the plant transitions into recovery phase.	15X
1410	0640	Wind direction change	TRG 12
1430	0700	Control of MUDAC is transferred to the State.	
1445	0715	Control of JIC is transferred to the State	
1500	0730	The exercise is terminated and critique sessions follow. Facility managers recall all personnel.	16
1505	0735	The TSC makes a PA announcing the end of the exercise.	17
1515	0745	Begin all-player critique in Energy Northwest emergency centers.	
1615	0845	Complete player self-critique sessions.	
1630	0900	Facilities are restored to standby condition. Data is gathered and saved for use in the Ingestion Phase exercise to follow.	18
1700	0930	JIC, SCC, CR, TSC, EOF and OSC Evaluators and Controllers confer in their centers regarding exercise performance and exercise scenario quality.	

Sample Of Expected Dose Projections

Figure 6.4-1

QEDPS Model Version 2.0 Run: 0September 17/2002 11:35:40

Centerline doses and dose rates at select distances

Distance (miles)	.6	1.2	2.0	5.0	7.0	10.0
TEDE (Rem)	1.1E+00	5.8E-01	3.6E-01	1.2E-01	8.0E-02	4.9E-02
External Dose	5.7E-02	3.4E-02	2.3E-02	8.9E-03	5.8E-03	3.6E-03
Thyroid CDE	1.7E+01	9.0E+00	5.5E+00	1.9E+00	1.2E+00	7.5E-01

TEDE = Cloud Shine + 4-Day Ground Shine + CEDE Inhalation
External Dose = Cloud Shine + Initial Ground Shine

TEDE Rate (Rem/h)	3.7E-01	1.9E-01	1.2E-01	4.1E-02	2.7E-02	1.6E-02
External Dose Rate	1.9E-02	1.1E-02	7.6E-03	3.0E-03	1.9E-03	1.2E-03
Thyroid CDE Rate	5.7E+00	3.0E+00	1.8E+00	6.3E-01	4.1E-01	2.5E-01
Worker Adj. Factor	2.1E+01	1.7E+01	1.6E+01	1.4E+01	1.4E+01	1.4E+01
Transport Time (h)	3.1E+00	3.1E+00	3.3E+00	3.6E+00	3.9E+00	4.2E+00

NOTE: Dose and dose rate values below 1.0E-06 have been set to zero.

You have selected: High Range Stack Monitor Reading = 1.37E+03 cps
Release is Unfiltered Flow = 4500. cfm
Wind Dir. From (deg.) = 50. Wind Spd (mph) = 8.0 Stab. Class = D
Release duration: 3 hr 0 min Holdup duration: 1 hr 0 min

Source term: A total of 7.4E+04 Ci was released.

Nuclide	Release (Ci/s)	Fract.	Nuclide	Release (Ci/s)	Fract.	Nuclide	Release (Ci/s)	Fract.
Kr-85	6.1E-03	1.0E-04	Kr-85m	2.2E-01	1.0E-04	Kr-87	3.0E-01	1.0E-04
Kr-88	5.8E-01	1.0E-04	Sr-89	2.4E-02	2.4E-06	Sr-90	9.1E-04	2.4E-06
Sr-91	2.6E-02	2.4E-06	Y-91	2.0E-03	1.6E-07	Mo-99	1.1E-02	6.3E-07
Tc-99m	1.1E-02	6.5E-06	Ru-103	7.5E-03	6.3E-07	Ru-106	1.6E-03	6.3E-07
Sb-127	7.6E-03	1.2E-05	Sb-129	3.6E-02	1.2E-05	Te-129m	6.9E-03	1.2E-05
Te-131m	1.5E-02	1.2E-05	Te-132	1.5E-01	1.2E-05	I-131	2.5E-01	2.8E-05
I-132	3.5E-01	2.8E-05	I-133	4.9E-01	2.8E-05	I-134	2.5E-01	2.8E-05
I-135	4.0E-01	2.8E-05	Xe-131m	1.1E-02	1.0E-04	Xe-133	1.8E+00	1.0E-04
Xe-133m	6.4E-02	1.0E-04	Xe-135	4.3E-01	1.0E-04	Xe-138	9.7E-02	1.0E-04
Cs-134	1.6E-02	2.0E-05	Cs-136	6.3E-03	2.0E-05	Cs-137	1.0E-02	2.0E-05
Ba-140	5.4E-02	3.1E-06	La-140	2.7E-03	1.6E-07	Ce-144	7.1E-03	7.9E-07
Np-239	1.4E-01	7.9E-07	Rb-87	1.3E-16	2.0E-05	Rb-88	5.8E-01	1.0E-04
Y-90	6.6E-07	1.6E-07	Y-91m	5.9E-04	1.6E-07	Tc-99	6.5E-13	6.3E-07
Rh-103	3.9E-03	6.3E-07	Rh-106	1.6E-03	6.3E-07	Te-127m	3.4E-07	1.2E-05
Te-127	4.5E-04	1.2E-05	Te-129	6.9E-03	4.9E-06	I-129	1.4E-13	2.8E-05
Te-131	2.7E-03	1.2E-05	Xe-135m	4.0E-01	1.7E-04	Cs-135	2.7E-12	2.0E-05
Cs-138	6.3E-02	2.0E-05	Ba-137m	1.0E-02	2.1E-05	Pr-144m	2.0E-05	1.6E-07
Pr-144	7.1E-03	8.6E-07						

Fract. is the fraction of the core inventory released.

Computed By: _____ Reviewed By: _____

Authorized By: _____

NOTE: The above dose projection was derived from data generated by the Win-Dose program. EDPS calculations by drill participants will use simulator data for input and be performed at varying times.

Timeline Summary

DAY ONE ACTIVITIES

0700: Start Scenario Crew performs shift turnover

0735: ALERT Classification (9.2.A.1)

0830: Centers Manned

0940: SAE Classification (2.2.S.1)

1045: Beginning of release –

1055: General Emergency Classification (2.1.G.2)

1200: Termination of release

1430: Transition of MUDAC to State of WA

1445: Transition of JIC to State of WA

DAY TWO ACTIVITIES (* = Controller injects)

0700: Kick-off briefing MUDAC

0800: NRC arrives at MUDAC and is briefed

0900: Kick-off briefing in JIC, WA EOC, OR EOC, Benton EOC, Franklin EOC, and Yakima EOC

0930:* FAX PAR to State EOC/ Crash call initiated (initial return)

1000: Kick-off briefings at Ag Decision Room.

1115:* Relocation PAR and revised PAR and FAXed to State and Counties EOCs

1345:* Food control boundary PAR FAXed to State and Counties EOCs

1445: Food control boundary geopolitical boundary with description to the State EOC

1545: Food control area PAD returned to MUDAC
County EOC play complete

1630:* Revised relocation PAD FAXed to JIC

1700: Revised food control PAD FAXed to JIC

State of Washington
State of Oregon

APPENDIX 5

SUMMARY OF ALL OUTSTANDING EXERCISE ISSUES
COLUMBIA GENERATING STATION, RICHLAND, WASHINGTON
As of September 21, 2003

Location	Issue No.	Brief Description	Schedule of Corrective Actions*
OR	69-99-12-A-02	Confusing information released to media.	Ensure information issued is clearly understandable to the media. **Corrective Actions:** Will be demonstrated in July 16, 2003 Out-of-Sequence Drill.
MS-1	69-00-21-A-02	REA Supervision	Lourdes Health Center to train staff to ensure procedures are understood by participants and properly implemented **Corrective Actions:** The procedures will be demonstrated in the next scheduled MS-1 Drill for Lourdes Health Center.
MS-1	69-00-21-A-03	REA set-up incomplete	Lourdes Health Center to train staff to ensure that Action Cards are followed for proper set-up as described in procedures. **Corrective Actions:** Will be demonstrated in the next scheduled MS-1 Drill for Lourdes Health Center.
WAEOC	69-02-1.c.1-A-01	Untimely notifications and coordination with OR ECC and WA OROs.	State of Oregon, Walla Walla and Yakima Counties did not receive notifications or they were not timely. Develop a reliable and prompt communication system. Continue the FAX process for hard copy records but utilize NAWAS, telephones, or E-mail for flow of information. **Corrective Actions:** WA State Integrated Fixed Facility Radiological and Chemical Plan SOPs will be changed to include sending e-mails to each of the affected WA Counties and the State of OR. This will be followed up with phone calls and FAXes to each of these entities.
WAEOC Re-demonstrated/cleared.	69-02-2.d.1-A-02	EOC Policy Room Decision-making.	EOC Policy Room did not demonstrate effective decision-making, considers relevant factors, or makes appropriate coordination in decisions involving the ingestion pathway. Re-demonstrated and cleared in 2002 Exercise.

APPENDIX 5 (Continued)

Location	Issue No.	Brief Description	Schedule of Corrective Actions*
MUDAC	69-02-2.e.1-A-03	Relocation Area Boundary	Modify current spreadsheet to consider doses for spreadsheet projection the second year and for 50 years. **Corrective Actions:** WA State DOH Office of RAD Protection officials dispute this issue and provided no schedule of corrective actions. Since it has been determined that the issue is appropriately classified as an ARCA, the resolution is as recommended by FEMA and the scheduled date for demonstration of the corrective action is at the next biennial exercise for the Columbia Generating Station.
BCEOC	69-02-2.b.1-A-04	Agricultural Advisory	Agricultural Advisory Information delayed. Determine faster method to factor wind shifts, etc. In case of a wind shift, extend the boundaries of the Agricultural Advisory to encompass the new plume path as well as the initial plume path. **Corrective Actions:** The issue will be corrected by removing the offending sentence from Section 4.33 of the Benton County Plan, by revising the Support Coordinator and Emergency Director procedures and by training staff. Issue will be demonstrated at next applicable exercise or drill.
BCEOC Re-demonstrated/cleared.	69-02-6.d.1-A-05	Patient Survey and Step-off area not properly delineated.	A complete survey of patient not made prior to exiting the controlled area. Step-off area from the controlled area to the clean was not properly delineated when monitoring staff out of controlled area. Re-demonstrated and cleared in 2002 Exercise.

*Schedule of Corrective Actions, except as noted, must be demonstrated prior to, or in, the 2004 Columbia Generating Station biennial exercise.

Note: By mistake, Oregon ARCAs 69-99-05-A-01 and 69-99-12-A-02 were not listed in the 2000 Exercise Report. 69-99-05-A-01 was cleared in this exercise and 69-99-12-A-02 will be demonstrated in July 2003.